

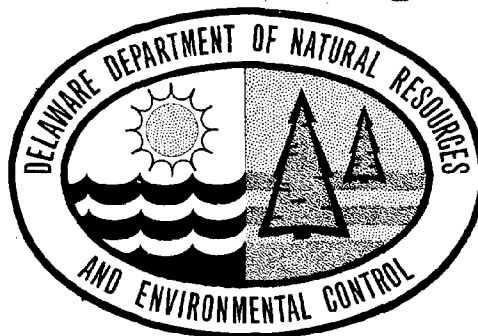
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00964

COASTAL ZONE
INFORMATION CENTER

DELAWARE

Annual Report



Fiscal 1972

NATURAL RESOURCES
CONTROL

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Delaware. DEPARTMENT OF
NATURAL RESOURCES AND ENVIRONMENTAL CONTROL,

00964



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
Dover, Delaware 19901

Austin N. Heller,
Secretary

The Honorable Russell W. Peterson
Governor of the State of Delaware
Members of the General Assembly

Annual Report --- Fiscal Year 1972

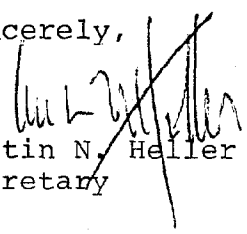
Dear Governor Peterson and Members of the General Assembly:

The Department of Natural Resources and Environmental Control is pleased to submit the Fiscal 1972 Report in accordance with Section 25, House Substitute No. 1 for House Bill 676 as amended.

This report describes in detail the many ways in which services have been improved and new programs implemented at a lower cost.

We are grateful for the assistance and encouragement of all of those who have helped make the Department's program a success.

Sincerely,


Austin N. Heller
Secretary

U. S. DEPARTMENT OF COMMERCE NOAA
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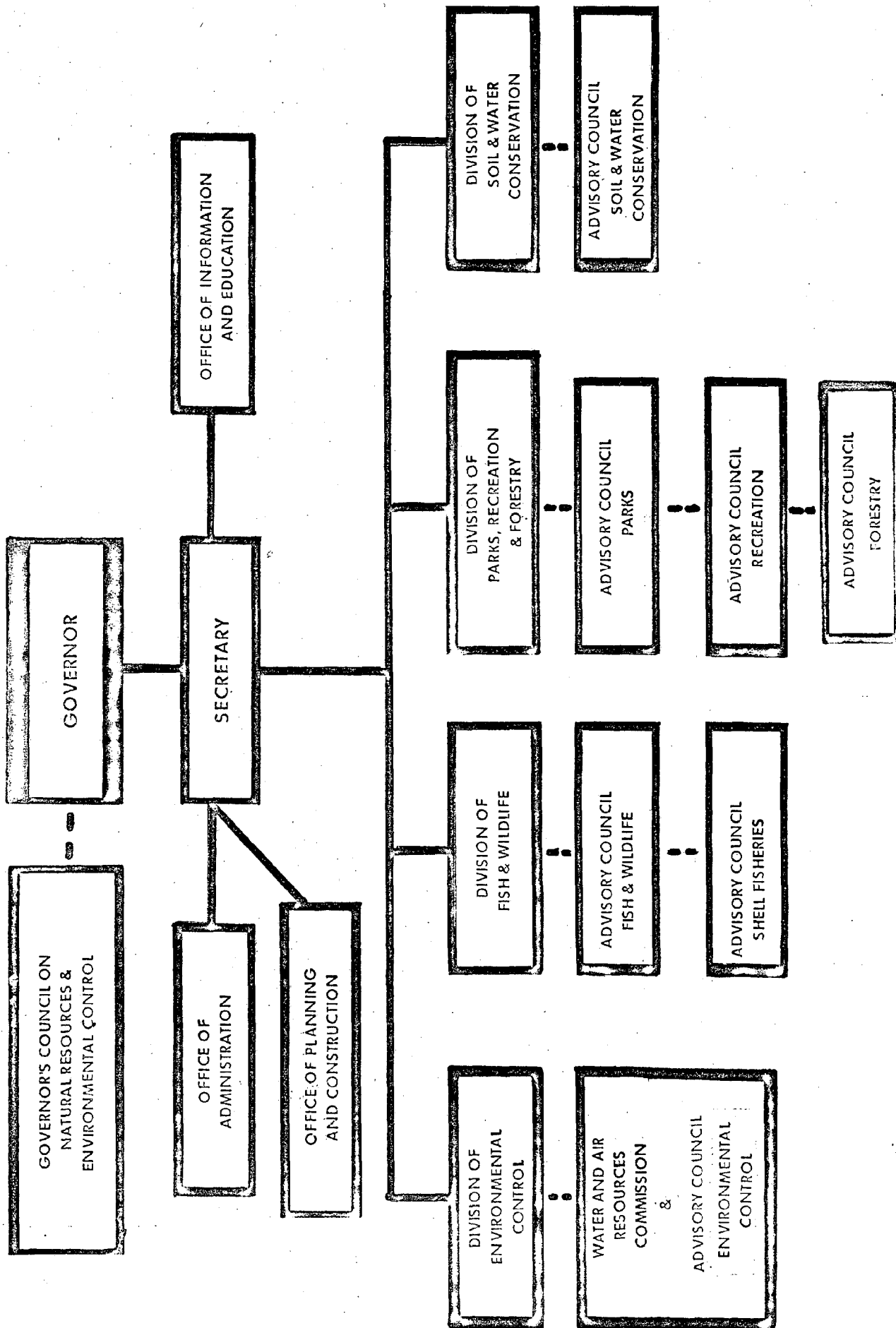
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DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

ORGANIZATION CHART

1972 ANNUAL REPORT



DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

ADVISORY COUNCILS

GOVERNOR'S COUNCIL ON NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

Dr. William E. McDaniel, Chairman
Walter L. Kabis
H. Wallace Cook
William L. Kapa
James P. Muir
Leah L. Roedel
W. Paynter Sharp

WATER AND AIR RESOURCES COMMISSION AND ENVIRONMENTAL CONTROL ADVISORY COUNCIL

Walter L. Kabis, Chairman
A. J. Maitland
Grover A. Biddle
Harvey B. Spicer
J. Wayne Kneisley
William A. Carter
Frank T. O'Brien, M.D.
Harold L. Jacobs, Ex-Officio
Robert R. Jordan, Ex-Officio

SHELLFISHERIES ADVISORY COUNCIL

James P. Muir, Chairman
Willis Hand
G. Stevens Lyshon, III
Harry E. Smith
John H. Burger, Jr.
Henry R. Buckaloo
Elisha C. Cropper
*Thomas L. Neiger

RECREATION ADVISORY COUNCIL

William L. Kapa, Chairman
John Carson
Nannie Caulk (Mrs. Marvin)
Ralph S. Cryder
James T. Dixon
Frank Jelich
John Purnell
George Sargisson
John E. Unruh

* Associate non-voting member

FISH AND WILDLIFE ADVISORY COUNCIL

W. Paynter Sharp, Chairman
Irvin D. Evans
Frank T. Lynch
Franklin N. Tarburton
Samuel A. Tyndall
J. Reese White, Jr.
George H. Shilling, Jr.

PARKS ADVISORY COUNCIL

Leah L. Roedel, Chairman
Gordon B. Sanders
Robert H. Sparre
Samuel E. Timmons
George R. McFarland
Donald Merritt
James W. O'Neal

FORESTRY ADVISORY COUNCIL

General H. Wallace Cook, Chairman
Clifford J. Donovan
Emory Voshell
Carmel L. Collins
Charles C. Brown
A. Wayne Burton
Earl A. Lloyd

SOIL AND WATER CONSERVATION ADVISORY COUNCIL

Dr. William E. McDaniel, Chairman
Gardner Kersey
Robert Dukes
F. William Haas, Jr.
Charles Blendt
Cashar W. Evans
Andrew J. Casey

DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
AUSTIN N. HELLER - SECRETARY

OFFICE OF ADMINISTRATION
Robert H. Tarr - Director

OFFICE OF PLANNING AND CONSTRUCTION
Rudolph F. Jass - Director

OFFICE OF INFORMATION AND EDUCATION
Elizabeth T. Caulk - Director

DIVISION OF ENVIRONMENTAL CONTROL
John C. Bryson - Director

AIR RESOURCES AND SOLID WASTE SECTION
Robert R. French - Manager

WATER RESOURCES SECTION
N. C. Vasuki - Manager

TECHNICAL SERVICES SECTION
Harry W. Otto - Manager

DIVISION OF FISH AND WILDLIFE
Darrell E. Louder - Director

FISHERIES SECTION
William F. Moore - Manager

WILDLIFE SECTION
Robert L. Graham - Manager

MOSQUITO CONTROL SECTION
A. Warren Wheatley - Manager

TECHNICAL SERVICES SECTION
Charles A. Lesser - Manager

DIVISION OF PARKS, RECREATION AND FORESTRY
Peter Geldof - Director

PARKS SECTION
William J. Hopkins - Manager

FORESTRY SECTION
Samuel V. Mace - Manager

RECREATION SECTION
Glenn T. Smoot - Manager

DIVISION OF SOIL AND WATER CONSERVATION
William R. Ratledge - Director

THE GOVERNOR'S COUNCIL ON
NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
1972 ANNUAL REPORT

The membership of the Governor's Council on Natural Resources and Environmental Control is composed of the chairman of each of the Advisory Councils for the various divisions of the Department of Natural Resources and Environmental Control. The Advisory Councils in the department and their chairman are:

<u>Council</u>	<u>Chairman</u>
Game and Fish	W. Paynter Sharp
Shellfisheries	James Muir
Parks	Mrs. Leah Roedel
Recreation	William L. Kapa
Forestry	H. Wallace Cook
Soil and Water Conservation	William E. McDaniel
Environmental Control	Walter L. Kabis

William E. McDaniel serves as Chairman of the Governor's Council at the pleasure of the Governor. William L. Kapa serves as Secretary through election by the Committee.

The business of the Council has been conducted at meetings and by actions of the Chairman and Secretary between meetings under due authorization of the Council. Following are the dates and places of the Council meetings:

<u>Date</u>	<u>Place</u>
September 30, 1971	Tour by helicopter over Delaware
October 14, 1971	Tour of oyster industry
November 16, 1971	Dover, Delaware
January 31, 1972	Dover, Delaware
May 15, 1972	Brandywine Creek Park Nature Center
June 19, 1972	Lewes, Delaware
July 12, 1972	Tour to study pollution, Delaware River

Governor Peterson arranged for a Delaware National Guard helicopter to supply transportation for an air tour for the Council over the state. Secretary Austin Heller and Mr. William Ratledge accompanied the Council on the tour. Mr. Ratledge pointed out and explained the function of the network of drainage ditches in Kent and Sussex Counties which had been constructed under the approval of the Soil and Water Conservation Division of the Department (and its predecessor, the Soil and Water Conservation Commission). Secretary Heller pointed out

the other visible properties and activities of the Department that could be seen from the air. He explained and answered questions pertaining to the property and activities and the relationships of these activities between the divisions within the Department.

On October 14, 1971 the Council toured the oyster areas off the coast of Delaware to become familiar with the oyster activities of the Department. Robert Beck, supervisor of fisheries, Frederick Bonner, fishery biologist and John Burger, of the Division of Fish and Wildlife, explained the oyster operations of the Department. The tour supplied background information to members of the Council, which will be helpful in arriving at recommendations pertaining to oyster activities of the state and within the Department.

As Governor Peterson has stated on many occasions, one of the major benefits of the cabinet form of government was the consolidation of the management of the state activities which were previously conducted by the many state commissions. The two tours described above provided background for the chairmen of the several Councils of the Department to advise the divisions within the Department on making the activities of each division supplementary and complementary to the activities of other divisions. The Governor's Council is very interested in having the various divisions function as integrated parts of a whole (Department).

The Governor's Council serves as a "clearinghouse" for the chairmen of the Councils within the Department. For example, Councilman Jack Casey, of the Soil and Water Conservation Council, reported on the concern of New Castle County residents on the total ban on burning. This had caused a problem in the disposing of leaves. After discussion, Chairman McDaniel was requested to discuss with the Governor's Council some possible relief from the total burning ban during certain weather conditions and to ascertain whether a total burning ban was necessary. The discussion within the Governor's Council supplied Walter Kabis, Chairman of the Environmental Control Council, the feelings of the other Council chairmen on the subject.

On November 16, 1971 Secretary Heller reviewed, with the Council, the Department's proposed 1973 budget which had been submitted to the Governor. During the discussion of the budget Secretary Heller indicated the Department was preparing a six-year program plan which would be helpful in the preparation and discussion of future budgets.

On February 9 and 14 members of the Council attended the Joint Finance Committee's budget hearings for the Department. During the November 16 meeting Mr. Kapa suggested to Secretary Heller that the names of staff members, specifically division directors and managers, be included in future Department Annual Reports. This would provide the public with their names as well as give the staff a morale boost by being recognized.

Out of discussions which occurred in the Governor's Council meeting on January 31, the decision was made to hold a joint meeting of all the Advisory Councils to exchange ideas and set guidelines on the type of information which would be most helpful to the Councils. The joint meeting was held at Buena Vista the evening of March 16, 1972.

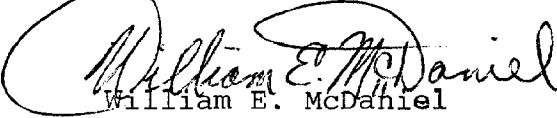
Again in an effort to orient the chairmen of the various Councils on the activities of a specific division, a Governor's Council meeting was held at Brandywine Creek Park Nature Center May 15, 1972. Mr. Peter Geldof, Director, Division of Parks, Recreation and Forestry, explained the activities, challenges and problems involved in the nine state parks which include 7,000 acres and the three state forests, totaling 6,500 acres. At this meeting Mrs. Roedel reported that the Park Advisory Council had approved a resolution in support of the Department's stand on a three-year moratorium on the park user's fee, since they felt enough time had not been given to the present set up to make an accurate evaluation. The Governor's Council then took action to endorse the recommendation of the Department of Natural Resources and Environmental Control on this subject and to support action taken through resolution by the Park Advisory Council for a three-year moratorium on the park user's fee in order that further study can be made by the Department.

The Council met June 19 at the University of Delaware Marine Science laboratories, Lewes, Delaware to hear a report presented by Secretary Heller and Dean William Gaither on the cooperative work between the University and the Department. Secretary Heller asked the Council to study two proposed projects and to make a recommendation on whether or not they should be done, the best way to do them and who should have the responsibility.

On July 12, 1972 the Council toured the Delaware River by boat to study sources polluting the river. Secretary Heller, John C. Bryson and members of his staff informed the Council pertaining to the details of the Department's program to monitor pollution of the river.

One of the important activities of the Council is to review proposed legislation affecting the activities of the Department and its various divisions. Reviews and appropriate comments were made on such proposed legislation during the past year.

Respectfully submitted,


William E. McDaniel
Chairman

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

MAJOR ACCOMPLISHMENTS - FISCAL 1972

- INNOVATIVE PLAN FOR CONCURRENT FINANCING OF SEWERAGE CONSTRUCTION PROJECTS REDUCES LOCAL COSTS, AND ENABLES DELAWARE TO IMPROVE ITS STREAMS MORE QUICKLY.* (PAGE 14)
- IMPLEMENTATION PLAN FOR AIR POLLUTION CONTROL ESSENTIALLY APPROVED BY EPA.* (PAGES 14, 27)
- REQUESTS FROM FOUR MAJOR COMPANIES FOR A VARIANCE FROM AIR POLLUTION REGULATIONS DENIED. EPA SUPPORTED DEPARTMENT'S ACTION WITH FEDERAL ORDER.* (PAGES 14, 30)
- COMPLETED AND SUBMITTED A PROPOSAL OF 13.7 MILLION DOLLARS TO EPA FOR A TOTAL RESOURCE RECOVERY SYSTEM. (PAGES 14, 31)
- IN-SERVICE TRAINING FOR ENVIRONMENTAL PROTECTION OFFICERS EXPANDED (PAGE 15)
- EDWARD TATNALL BUILDING DEDICATED, JULY 14, 1971. (PAGE 21)
- DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL LAWS AND REGULATIONS CONDENSED INTO TWO LOOSE-LEAF VOLUMES (PAGE 21)
- PERMANENT EXHIBIT INSTALLED AT DELAWARE STATE FAIR GROUNDS (PAGE 22)
- BURTON ISLAND RELOCATION PROJECT (PAGE 23)

* NATIONAL SIGNIFICANCE

MAJOR ACCOMPLISHMENTS - FISCAL 1972

- VITAL WETLANDS AND PARK LANDS ACQUIRED (PAGE 23)
- IMPORTANT OPINION OBTAINED FROM THE DELAWARE SUPREME COURT IN THE DEFENSE OF PUBLIC LANDS ALONG THE DELAWARE COAST. (PAGE 24)
- FRESHWATER TROUT PROGRAM EXPANDED (PAGES 43, 48)
- MARINE SAFETY PROGRAM EXPANDED (PAGE 44)
- OYSTER BEDS OPENED TO TONGUERS FOR FIRST TIME SINCE 1965 (PAGE 46)
- FINFISH AND WILDLIFE REGULATIONS PUBLISHED (PAGE 49)
- PARK USER FEE FINANCES PARK IMPROVEMENTS (PAGE 61)
- NATURE INTERPRETIVE PROGRAM EXPANDS (PAGE 61)
- MANAGEMENT TRAINING SCHOOL SPONSORED BY FEDERAL GOVERNMENT, DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL AND DEPARTMENT OF AGRICULTURE FOR FIRST TIME (PAGE 63)
- 192 LANDOWNERS BECAME COOPERATORS WITH THE SOIL AND WATER CONSERVATION DISTRICTS (PAGE 77)
- NEW MEMORANDUM OF UNDERSTANDING WAS EXECUTED BETWEEN THE DISTRICTS AND STATE FORESTRY AGENCIES (PAGE 78)

THIRD ANNUAL REPORT
JULY 1, 1971 - JUNE 30, 1972
DEPARTMENT OF NATURAL RESOURCES
AND
ENVIRONMENTAL CONTROL

The Department of Natural Resources and Environmental Control is the one department responsible to Delawareans for environmental quality. In our second full year of administering the many disciplines which make up the warp and woof of the environment we have made some giant steps forward.

During F/Y 1972 the Department of Natural Resources and Environmental Control has the added responsibility for beach erosion control which was transferred to us from the Department of Highways and Administration.

In the consolidation of departmental programs the flow of information has greatly improved through the use of monthly fiscal reports and quarterly fiscal and activity reports which are utilized by the Directors in managing the diverse programs.

The Department's foremost objective is quality plus economy. The Department reverted \$346,000 of state funds while at the same time improving services, for example, streamlining the issuance of permits, development of interpretive programs in the parks, and expansion of freshwater trout program.

An education and training program to develop the maximum potential of each employee to meet the operating needs of the Department is given a very high priority. The Department of Agriculture and the Department of Natural Resources and Environmental Control co-sponsored the Organization Management Training Course presented by the U. S. Forest Service for the Northeast Region. There were 30 Department of Natural Resources and Environmental Control employees in the class of 50. Thirty-nine Environmental Protection Officers matriculated in courses offered at the State Police Training Academy and Delaware State College.

DELAWARE ASSUMES NATIONAL LEADERSHIP IN ENVIRONMENTAL FIELD

I. Phase Grant System

Delaware's phase-grant system for allocating sewerage construction funds is anticipated to be adopted by Congress. Experts consider this method of financing many sewerage construction projects simultaneously to mean that all of Delaware's needs for stream-improvement will be met sooner. Delaware communities are expected to receive 30 odd million dollars. The new legislation is expected to raise the federal share from 55% of the eligible costs to 75% of the total project costs. This means that 150 miles of Delaware streams will be cleaned up in the shortest possible time, and at much lower cost to Delawareans.

II. Air Pollution Enforcement

On December 28, 1971 the Secretary denied the variances sought by four companies to gain more time for compliance with air pollution regulations. The cases were contested in the courts and, for the first time anywhere in the United States, the Environmental Protection Agency (EPA) acted, under its Clean Air Act of 1970, to test its enforcement powers. The courts have upheld the Secretary's denial and EPA's enforcement. The case is to be appealed before the Supreme Court by Getty Oil. The final decision will have national significance with reference to the 1970 Clean Air Act, and can be expected to be a landmark decision in environmental law.

III. Delaware Reclamation Project

A 500 ton a day plant is being designed which will be capable of separating and recovering the components of solid wastes in a form which will allow their diversion back into the consumer market while at the same time using digested sewage sludge as a diluent, in the process. We have applied to EPA for a demonstration grant.

IV. Burton Island Relocation

The massive job of relocating 294 vacation home owners to surrounding communities was accomplished smoothly. The federal government assumed the cost of relocation. Burton's Island, a nationally recognized access to fine salt water fishing grounds, was purchased in 1971 with federal and state monies.

The year has been one of consolidation, improved programs and landmark decisions. We have built a sound foundation for environmental progress in Delaware.

OFFICE OF ADMINISTRATION

The coordination of fiscal, personnel, procurement and enforcement activities is the responsibility of the Office of Administration. To continue to improve the administrative activities of the Department, the policies and procedures were reviewed and updated with emphasis on controls, yet streamlining the operations wherever feasible.

To further assist management with their fiscal programs, the Monthly Financial Report was issued in two parts, one being the percentage report, the other putting the financial status in graphic form.

The fiscal section continues to maintain all accounting records of the Department and maintain control of the Department's revenues.

The personnel section played a more active role in setting procedures and processing applications for seasonal employment during the year.

The Department continues to be represented on the Credit Union approval committee and has a good number of its staff utilizing this method of saving. The Department also has a good number of personnel saving through the procurement of United States Savings Bonds.

The purchasing section, in a continuing effort to strengthen the Department's purchasing power, consummated various term contracts for high use items. This has established a stable price for such items over a period ranging from six to eighteen months and enabled the Department to obtain more per dollar expended.

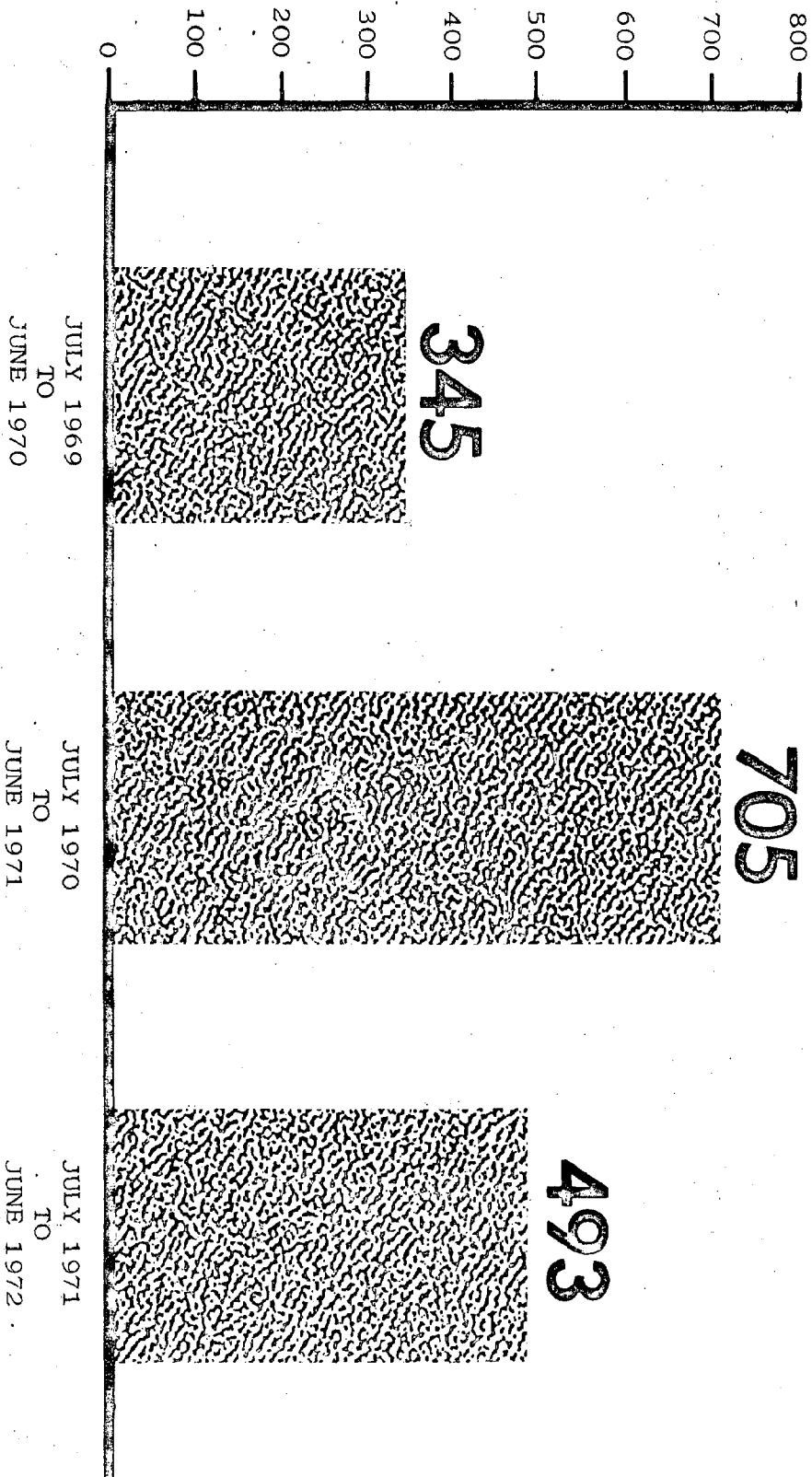
The utilization of the statutory five letter bid has been an effective tool in securing services and materials in that the time element has best served the Department's needs.

One major step in the advancement of the Enforcement Program is the consolidation of the radio communications network of the Department to a two-band system; one frequency for enforcement, the other for administration and operation.

In addition to the Environmental Protection Officer Training School held at the State Police Academy, a Management Resources Theory Course highlighting man and his environment was held at Delaware State College in conjunction with the College.

On toll free complaint line, which is available to all Delawareans for reporting problems immediately on a 24-hour basis, 626 calls were received during the fiscal year.

DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
ARRESTS AND CONVICTIONS



NUMBER OF ARRESTS

DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL

ARRESTS AND CONVICTIONS

July 1, 1971 - June 30, 1972

VIOLATIONS - FISH & WILDLIFE

Fishing without a license	69
Fishing on C/B resident	1
Taking overlimit of trout	2
Trouting after hours	1
Taking oversized bass	1
Taking overlimit of ducks	2
Possession of illegally taken ducks	1
Ducking after hours	6
Hunting without a license	15
Hunting without permission	2
Hunting in closed season (deer cases)	8
Hunting in closed area	10
Hunting illegal hours (deer cases 2)	31
Hunting from state blind within 100'	5
Failure to report deer kill	1
Failure to tag deer	3
Hunting deer on Sunday	4
Butchering deer before checking	1
Running dog in deer season	2
Hunting squirrel in closed season	2
Hunting geese after hours	1
Taking waterfowl after hours	1
Hunting waterfowl from motor boat	1
Hunting from powered boat	1
Killing hen pheasant	1
Attempting to take 2nd. pheasant	4
Failure to return pheasant permit	1
Taking over bag limit	3
Trespassing to take muskrat	2
Illegally taken muskrat	1
Protected wildlife in possession	3
Possession of game bird	3
Possession and exposure of protected wildlife	1
Possession and sale of protected wildlife	1
Illegal possession of game	4
Making use of bait	2
Hunting over baited area	23
Possession of unplugged gun	6
Possession of improperly plugged gun	1
Hunting on refuge	4

FISH AND WILDLIFE (Cont.)

Hunting with illegal ammo	2
Possession of firearms on C & D Canal	9
Possession of firearms on G/F Canal area	1
Loaded gun in vehicle	17
Trespassing with gun	22
Trespassing	6
Hunting from vehicle	2
Hunting with loaded firearms	4
Illegal use of artificial light	12
Shooting from public road	5
Non-resident hunting without a license	2
License obtained under false pretense	1
Speeding with motor boat	1
Improper display of license	1
Defacing state property	1
Removing bushes	1
Illegal use of net	3
No field trial permit	1
Illegal discharge of firearms	1
Motor Cycle operating East of C & D Canal	1
TOTAL	324

DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL

ARRESTS AND CONVICTIONS

July 1, 1971 - June 30, 1972

VIOLATIONS - BOAT AND SHELLFISH

Taking overlimit clams	35
Taking undersized clams	4
Taking undersized crabs	1
Taking undersized lobsters	1
Clamming in polluted water	3
Crabbing on Sunday	3
Crabbing without a license	1
Negligent operation of boat	8
Expired registration	7
No boat registration	14
No numbers displayed	3
Unlicensed boat	2
No numbers on bow	10
No numbers on hull	1
Operating Class A boat without license	2
Excessive wake	1
No present boat decal	4
Not enough life saving devices	26
Lack of equipment	4
Improper water skiing	1
Overloaded boat	1
TOTAL	132

VIOLATIONS - DOG

Dog running at large	559
Unlicensed dog	196
Shooting a licensed dog	3
Failure to attach tag to dog collar	2
Breach of Peace	1
Failure to answer summons	1
Dog in season	2
Cruelty to animals	2
TOTAL	766

VIOLATIONS - PARKS, RECREATION
AND FORESTRY

Careless driving	1
Operating unregistered motor vehicle	1
Speeding	1
Loaded gun in vehicle	1
Trespassing with gun and dog	1
Unplugged gun	1
Assault and battery	1
Possession and consumption of alcoholic beverage by minor	1
Under influence of intoxicating beverage	1
Indecent exposure	2
Disregarding stop sign	2
Littering	2
Disorderly conduct	2
Reckless driving	3
Operating a motor vehicle without an operator permit	3
Breach of peace	6
Cutting trees on state park property	8
TOTAL	37

EMPLOYEE SAFETY

The Department of Natural Resources and Environmental Control takes the view that, aside from the humanitarian aspect, safety is good business on the basis of employee morale, decreased labor turn-over, employee productivity and the conservation of human resources. Departmental supervisors recognize that employee safety is a paramount function of management and assume full responsibility for the personal safety of everyone under their supervision. While management has overall responsibility, the Central Safety Committee administers the program on a day to day basis.

The Central Safety Committee consists of a representative from each of the Divisions and a Resources Engineer who serves as committee chairman. These positions are part-time and are performed on a collateral basis. The committee meets once each month to discuss safety needs of the Department and to recommend activities, regulations and other measures which will help to protect employees. A major function of the committee is to conduct safety inspections of the Department's facilities and to report unsafe practices, conditions, or equipment to management.

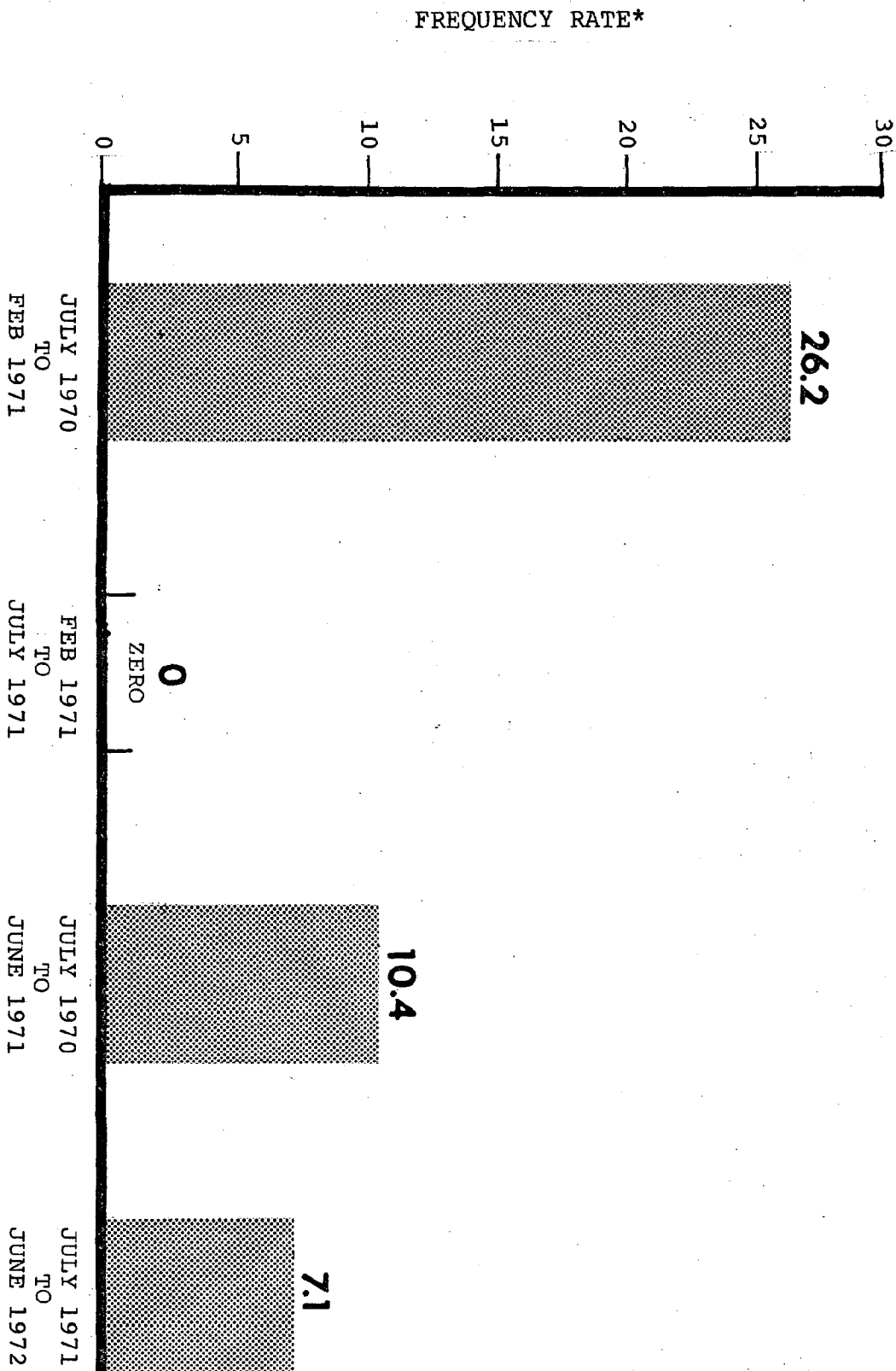
During the past year, the Department accumulated over one-half million exposure man-hours. The frequency rate (major injuries per million exposure man-hours) decreased from 10.4 in fiscal year 1971 to 7.1 for fiscal year 1972 - a decrease of almost 32%. It is the Department's objective to totally eliminate occupational accidents involving its employees. However, in 1972 none of the injuries sustained by our employees resulted in death or permanent total or partial disability.

The main thrust of the Department's safety program is, and will continue to be: Increased safety awareness by all employees and members of supervision, better safety communications between supervision and employee, more frequent and thorough safety inspection of facilities, greater concern for placement of employees compatible with their ability, training and temperament, and continuing programs of safety education in accident prevention.

The Department's philosophy of employee safety was clearly stated in the preface to the Department safety handbook. The Department Secretary wrote, "Finally, it is the Department of Natural Resources and Environmental Control's policy for safety to come first on the job - regular and emergency. It should never be said that time or job demands did not allow for doing the job safely."

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

MAJOR INJURY REPORT
JULY 1, 1971 TO JUNE 30, 1972



* PER MILLION EXPOSURE MAN HOURS

INFORMATION & EDUCATION

The Office of Information and Education is responsible for the coordination of all of the printing and public relations activities for the Department. To fulfill these responsibilities, the office is not only in continual contact with all the Divisions, but must also act as liaison between the Department and the public via the news media, lecture, film and slide presentations as well as informational assistance.

During the 1972 fiscal year, the Office of Information and Education scheduled 452 film showings to an approximate audience of 36,640 persons, 26 tours attended by 1154 people, 49 lectures to an approximate audience of 3050 persons, and answered 3822 requests for information. The office also released 86 items to all types of news media, both in Delaware and nationally.

The Office of Information and Education worked closely with the State Division of Graphics and Printing to ensure that the operational printing needs of the Department were met. Two issues of the Department's magazine, Delaware Conservationist, and the Department calendar were published and mailed (mailing list increased from 6300 to 7000). Other publications include hunting and fishing summary brochures, Delaware Outdoor Adventure brochure and nature trail guides.

The complete Laws and Regulations for the entire Department have been compiled into a two-volume loose-leaf binder format. Both volumes have been printed, and sets have been distributed.

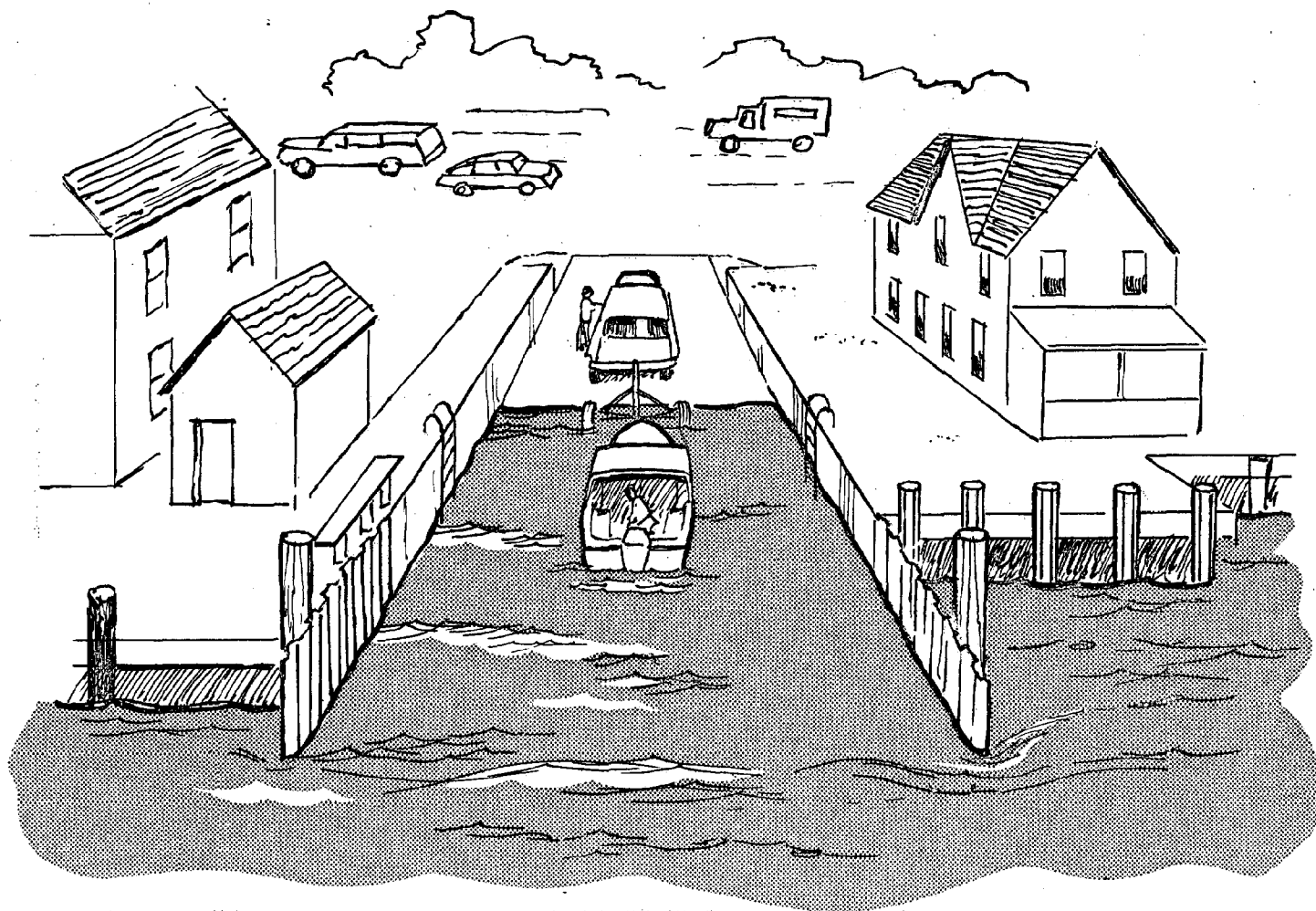
The newly remodeled Department headquarters in Dover was officially dedicated as the Edward Tatnall Building on July 14, 1971. Thirty-five members of the Tatnall family attended, along with over 100 invited guests.

The DNREC Library has been reorganized to provide a suitable depository for reference material on all phases of environmental topics. Not only does it provide a convenient place for staff members to do research, but many students and others also use our facility.

The Department cooperated with State and private groups in writing the "State Plan for Environmental Education" which was submitted for federal approval in January, 1972.

The permanent Department exhibit at the Delaware State Fair was completed. It features a waterfall, fish and waterfowl ponds, and display areas for wildlife species in simulated habitat. There is also a changeable display area to exhibit other aspects of departmental responsibility. This exhibit was manned continuously by staff personnel throughout Fair Week with an approximate attendance of 30,000 persons.

Earth Week activities were again coordinated by the Department in cooperation with the Department of Public Instruction. Daily tours were arranged for departmental lands, waters and laboratory facilities. Films and speakers were also scheduled.



Bowers Beach West Boat Launch was completed in 1972.

PLANNING AND CONSTRUCTION

The Office of Planning and Construction is responsible on the departmental level for land acquisition, construction projects in the various land holdings of the Divisions and the long-range planning, including the capital planning of the Department.

The Real Estate Section acquired a total of 1,323 acres of land at a total acquisition cost of \$904,833.00.

During the year, 1,047.9 acres were acquired for fish and wildlife purposes, with most of this in the critical coastal zone wetlands. A total of \$555,153 was spent for this property. In addition to the fish and wildlife purchases, \$315,300 was spent for the Division of Parks, Recreation & Forestry. Most of these purchases were for Lums Pond State Park. A major concentration of effort in the Office was with the Burtons Island project, where under federal and state law, relocation assistance was provided to the residents. A temporary office was established in a trailer on Burton Island and the Department of Natural Resources contracted with the Department of Highways & Transportation's Right-of-Way Section to assist in this project. It involved 315 parcels owned by 294 owners. Contact was made with each property owner and all realty owners have signed agreements. Two hundred and fifty-seven building sites have been released to the Division of Parks, Recreation & Forestry for demolition at the end of the fiscal year. On this project the federal government has agreed to pay up to 100% of all relocation costs to both temporary and permanent residents. As of the end of the fiscal year approximately \$840,954.90 has been allotted by the state for relocation on Burton Island.

The Construction Section, headed by an engineer, completed 15 construction projects at an approximate cost of \$378,600. The biggest problem faced by the Section was the fact that all the construction program projects were going out at the same time. In addition to the engineer, only an inspector was available to keep all the projects going.

In addition to these major programs, the Section provided engineering advice upon request to the various Divisions and to individual communities regarding recreation, development and other related projects.

In the field of planning, the Section was responsible for working with a consultant in the development of four Master Plans for State Parks, including Cape Henlopen, Delaware Seashores, White Clay Creek and Brandywine Creek.

Working not only with the Divisions but the State Planning Office, guidelines and determinations were made in the case of Cape Henlopen and Delaware Seashores and work is continuing with the consultant on the remaining two parks under the contract.

In addition, the Office maintains liaison with the counties and sends a representative to the Subdivision Advisory Council meetings every two weeks.

The Office is also responsible for continuing liaison with the Corps of Engineers, especially with regard to permits, and coordinates efforts by each of the Divisions to specific requests on environmental impact studies by the Coast Guard, Highway Department and other federal agencies on projects.

PUBLIC LANDS

The Department of Natural Resources and Environmental Control has continued to vigorously defend the public lands that were transferred from the Department of Highways and Transportation to the Department of Natural Resources and Environmental Control in the Fall of 1970. A significant opinion was obtained from the Supreme Court of the State of Delaware on September 16, 1971, in the Phillips vs. The State of Delaware case. This was one of the several items of litigation that were pending before the courts regarding the State's claim to the beachlands in the vicinity of Fenwick Island. The Department has pressed its fee counsel to actively continue its strong defense of the State's properties, fully realizing the value of these beachlands (approximately 14 million dollars) as a natural resource to the residents of Delaware. It is expected that the other cases involved will be resolved during fiscal year 1973.

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

DIVISION OF PARKS, RECREATION AND FORESTRY

<u>Projects Completed</u>	<u>Cost</u>
Redden Forest, Road, Parking Lot Improvements	28,000
Cape Henlopen Fencing	8,000
Delaware City Parking Lot	8,000
Killens Pond Water System	4,800
Trap Pond Bathhouse Alterations and Additions	56,000
Redden Forest Maintenance Building	31,000
Brandywine Creek Water System	22,000
Cape Henlopen Sanitary Trailer	17,000
Delaware Seashores Water and Sewer Facility	8,400
	<hr/>
	183,200

Projects Under Construction

Killens Pond Dump Improvement	15,750
Blackbird Forest Maintenance Building	33,800
Lums Pond Entrance Road, Camping Area Improvements	57,500
	<hr/>
	107,050

Projects Under Design

Contact Stations *	334,000
Cape Henlopen-Redden Forest Fire Damage	60,000
Trap Pond Sewage Plant *	120,000
Trap Pond Camping Area Improvements *	185,000
Delaware Seashores Parking Lot & Road *	95,000
Cape Henlopen Bathhouse and Boardwalk	10,000
Brandywine Creek Picnic Area Parking Lot *	83,000
Brandywine Creek Entrance Road *	82,000
	<hr/>
	969,000

*Project hold by Construction Moratorium

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

DIVISION OF FISH AND WILDLIFE

<u>Projects Completed</u>	<u>Cost</u>
Brandywine Creek Fishways #4	107,000
Bowers Beach Westerly Bulkhead	20,200
Lewes Boat Launching Ramp	8,000
Coursey-Blair Ponds-Parking Lots	17,500
Craigs Pond Spillway	11,000
Cedar Creek Bulkhead	31,400
	<hr/>
	195,100

Projects Under Construction

Bowers Beach Easterly Boatramp	25,000
Cedar Creek Parking Lot Expansion and Improvements	70,000
	<hr/>
	95,000

Projects Under Design

Griffith Lake Bulkhead *	6,000
Cedar Creek New Launching Ramps, Piers & Bulkheads *	110,000
Nanticoke Wildlife Area Maintenance Shed	10,000
Woodland Beach Ramp & Bulkhead	20,000
Phillips Landing Bulkhead	20,000
	<hr/>
	166,000

*Project hold by Construction Moratorium

DIVISION OF ENVIRONMENTAL CONTROL

INTRODUCTION

The Division of Environmental Control is charged with responsibility in the areas of air pollution control, water pollution control, the utilization of water, underwater resources, mineral exploration and exploitation, management techniques of beach erosion control and solid waste management. The Division operates with three sections, as follows:

Air Resources and Solid Waste Section : -
R. R. French, Manager
Water Resources Section: - N. C. Vasuki, Manager
Technical Section: - Dr. Harry W. Otto, Manager

AIR RESOURCES SECTION

The third and final year of the establishment of Delaware's Air Pollution Control Program was completed during this year. Federal support was continued to the state in the form of a grant of \$234,314.

The federal government approved Delaware's Implementation Plan for Achieving the National Primary Air Quality Standard for Sulfur Dioxide. The federal government subsequently reported as approvable the state's additional plans for attainment and maintenance of ambient air quality standards throughout the state. The plans provide for control of sulfur dioxide, suspended particulate matter, oxides of nitrogen, carbon monoxide, oxidants and hydrocarbons. The plans called for many changes in the existing "Regulations Governing the Control of Air Pollution" which were adopted by the Water and Air Resources Commission.

The permit system functioned throughout the state requiring both construction and operating permits for all new installations. Registration of all existing sources and the issuance of operating permits for equipment which comply with the regulations was begun. An analysis of the types of permits issued shows the land clearing and fire training permits to be most numerous.

PERMITS ISSUED - 1972

Land Clearing	206
Fire Training	78
Boilers	30
Incinerators	17
Process Equipment	49
Landfills	<u>2</u>

TOTAL 382

Of this total, 33 operating certificates of approval were issued.

Some of the more significant permits issued were as follows:

1. Delmarva Power and Light Company to convert four existing boilers from coal to low sulfur oil. This conversion was completed in March, 1972 and all four units were issued operating certificates.
2. North American Smelting Company to install control equipment on its brass operation to reduce the emission of particulate matter.
3. Artic Roofings, Inc. to install control equipment on its roof saturator to reduce odors and particulate matter emissions.
4. Getty Oil Company (Eastern Operations) to operate a Merox treating plant to control mercaptan odors at its refinery in Delaware City.
5. Getty Oil Company (Eastern Operations) to construct a carbon monoxide boiler to reduce emissions of carbon monoxide at the Delaware City Refinery.
6. City of Dover to convert two existing boilers at its power plant from coal to low sulfur oil. This conversion is 95% complete at this time.

New personnel who joined the section during the year are as follows: Robert R. French as Manager of the Air Resources Section on August 16, 1971; Pasquale S. Canzano as Manager of the Delaware Reclamation Project on March 16, 1972; Jerome S. Cohen as the Division's first full time attorney on November 1, 1971; Karen Fones on March 1, 1972 as a clerk stenographer.

Administrative hearings were conducted by the Department to consider the following permit applications:

1. E. I. du Pont de Nemours and Company to install an experimental fabric finisher and a solvent absorber at the Christina Laboratory - permit granted.
2. Delmarva Power and Light Company to install a new generating unit at its Edge Moor power plant - decision pending.
3. Artic Roofings, Inc. to install odor and particulate matter control equipment on its roof saturators - conditional permit granted.
4. SunOlin Chemical Company to install a sulfur recovery unit to reduce sulfur oxide emissions - application subsequently withdrawn.
5. SunOlin Chemical Company and Allied Chemical Corporation to jointly install a pipeline and associated equipment to transport waste gases from SunOlin Chemical Company to Allied Chemical Corporation for use as a raw material thereby eliminating 8,000 tons per year of sulfur oxide emission from SunOlin Chemical Company - permit granted.

The Air Resources Section provided technical assistance to the Water and Air Resources Commission for hearings on the following subjects:

1. Revisions of the open burning regulations to consider the problem of leaf burning in New Castle County.
2. Delaware's proposed Implementation Plans for Attainment and Maintenance of Ambient Air Quality Standards. Revisions to "Regulations Governing the Control of Air Pollution" were considered as a part of the proposed plans.
3. Proposed regulations for the control of odors and for the start-up and shut-down of certain industrial equipment.
4. Proposed regulations to control dust emissions from grain dryers and to effect changes to the open burning regulation.

5. Appeal to the Commission by Stauffer Chemical Company of the Department's denial of a variance request for additional time to bring its sulfur recovery units into compliance with emission standards.
6. Appeal to the Commission by Getty Oil Company of the Department's denial of a variance request for additional time to comply with the 3.5% limit on the sulfur content of fuel.

The following hearings were conducted by the Department on requests for variances from specific regulations:

1. Getty Oil Company requested additional time to bring a sulfur recovery unit into compliance - variance denied.
2. Getty Oil Company requested a variance from emission standards during start-up and shut-down of its fluid coking unit - variance granted.
3. Allied Chemical Corporation requested additional time to reduce emissions of sulfur oxides from its sulfuric acid plant to allowable limits - variance denied.
4. Stauffer Chemical Company requested additional time to bring a sulfur recovery unit into compliance - variance denied.
5. Getty Oil Company and Delmarva Power and Light Company requested additional time to limit to 3.5% the sulfur content of fuel used by Delmarva Power and Light Company at its Delaware City station - variance denied.

The federal government issued its first enforcement order pursuant to the Federal Clean Air Act, as amended, against Getty Oil Company and Delmarva Power and Light Company. The order requires the firms to comply with Delaware's regulation limiting the sulfur content of fuel to 3.5%. The case is being contested in the courts. The federal government also issued an order to Allied Chemical Corporation requiring the firm's sulfuric acid plant to meet Delaware's emission limit by September 15, 1973.

In accordance with statutory requirements, the Section cooperated with the Technical Services Section and the Division of Motor Vehicles in establishing a program for

measuring exhaust emissions of carbon monoxide and hydrocarbons from motor vehicles. The data is being used to determine the limits on emissions to be incorporated in the State's Motor Vehicle Inspection Program.

In accordance with statutory provisions, the section assumed certain responsibilities for control and management of solid wastes:

- (a) A contract was negotiated with a private consulting firm to update Delaware's Solid Waste Management Plan.
- (b) Legal proceedings were brought against Wildcat Landfill, Inc. of Dover for operating a sanitary landfill without a permit. A fine was imposed against the firm by the Magistrate Court.
- (c) Staff investigations of 108 complaints resulted in the discontinuance of open dumping practices at 32 sites. During this period 75 inspections of approved landfill operations were conducted.
- (d) Under the supervision of the Air Resources Section, Hercules, Incorporated continued its design of a facility in New Castle County, the Delaware Reclamation Project, which will process solid wastes and sewage sludge to produce marketable products. The application for a federal grant to construct the plant and operate it for one year was prepared for submission to the federal government.

WATER RESOURCES SECTION

The following are the major items accomplished during Fiscal Year 1972:

1. Standard operating procedures were prepared for reviewing subaqueous lands applications, septic tank permits and commercial permits. Adoption of such procedures has resulted in reduction of time involved in reviewing and issuing a permit.

A summary of permits issued during the fiscal year is given below:

Type	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Water Pollution Control (Individual Septic Tanks)	505	385	309	707
Commercial (Sewer systems, trailer courts, industries, etc.)	28	40	14	53
Water Supply Domestic	285	158	164	309
Public	10	9	4	6
Agricultural	9	11	11	8
Industrial	5	2	4	6
Commercial	4	2	4	6
Subaqueous Lands	25	14	28	15

2. Standard operating procedures were also developed for reviewing federal grant applications for sewerage systems and for the disbursement of state and federal grant funds. Eight million dollars in state funds and \$7.2 million in federal funds have been allocated to 18 projects in Delaware for Fiscal Years '71 and '72.
3. Program grant applications were prepared and submitted to the Environmental Protection Agency for grants pursuant to 33 U.S.C. 466 et. seq. and the Department of Interior Water Resources Council for grants pursuant to P.L. 89-80.
4. The Section acted as an agent of the Environmental Protection Agency in a survey of all industrial waste entering the sewer systems.
5. The Section is continuing to act as an agent for the Environmental Protection Agency-Corps of Engineers permit program pursuant to Federal Refuse Act of 1899.
6. The Section has reviewed and made changes to the STORET forms submitted by the Environmental Protection Agency.
7. The Section participated in the Environmental Protection Agency AutoMap System and assisted that agency in preparing an Environmental Impact Statement on the Bethany Beach Project.
8. The Section was involved in the dispute between the City of Newark and New Castle County in which the Department acted as a mediator. The sewer problems in the Newark area were investigated. A detailed report was prepared and presented within the six week period and a firm agreement was reached between the parties on measures to improve the sewer situation.
9. A potential groundwater pollution problem was detected near Llangollen, Delaware. Investigations are continuing to establish conclusive proof of contamination of the aquifer from the old New Castle County dump.
10. The Section participated in the conceptual development of a regional wastewater collection and treatment system for Long Neck area in Sussex.

11. The Section staff participated in developing position papers and suggested legislation for beach erosion control.
12. A program for on-the-job training of sewage treatment plant operators was initiated and the Department received a grant of \$18,500 for this purpose from the Environmental Protection Agency.
13. Illegal subaqueous lands development activities were investigated by the Section staff and reported to the Division, the Secretary and the Water and Air Resources Commission. Aerial surveys and photographic evidence were compiled.
14. The Section managed the clean up of twenty-four (24) miles of oil contaminated beaches with the cooperation of Technical Services Section, Division of Parks, Recreation and Forestry, Division of Fish and Wildlife, Department of Highways and Transportation and the Department of Health and Social Services. The Section's initiative resulted in the U.S. Coast Guard reimbursing the State for the entire clean-up cost (\$10,000).

ENFORCEMENT AND ADMINISTRATIVE ACTION

Initiated against Surfside Products, Lewes; General Motors-Boxwood Plant; Swift Poultry, Felton plant; Globe Union, Middletown; National Cash Register, Millsboro; Clifton Cannery, Cannon; Draper-King Cole, Milton; Culligan, Milford; Town of Milton; Town of Bridgeville; Marclay Mills, Milford; Cannon Foods, Bridgeville; and Du Pont at Seaford.

Public hearings were held on applications for Peachtree Run Apartments; Sea Colony, Inc.; Star Hill Village; Derby Shores; Red Lion Village and a public hearing on illegal subaqueous lands development activities.

TECHNICAL SERVICES SECTION

The Technical Services Section completed the second year since its organization within the Division of Environmental Control. In that period a number of important improvements have been instituted to further optimize its operations. Some of these improvements include a viable safety program, training sessions for personnel, purchasing/finance procedures, and additions of important, much-needed instrumentation. The most critical need of the laboratory is for adequate physical facilities. Present facilities are far below national minimum standards for laboratories in terms of ventilation,

temperature maintenance for critical instruments, chemical/solvent storage, compressed gas storage, and delivery areas for heavy supplies.

The responsibilities of the Section encompass development of the broad technical aspects of the Division's air and water quality monitoring programs including field surveillance studies, episode control, source sampling, analytical methods development, personnel training and safety, and evaluation of technical programs of interest to the Division, but sponsored by other sections and state agencies. The Section has undertaken numerous scientific studies in support of the program of other sections in the Division.

AIR

A sophisticated air quality monitoring network has been maintained in operation in the state to evaluate existing levels of air contaminants, to measure progress of control programs as indicated by improved air quality, and to provide the necessary information to effectively deal with emergency situations. The network essentially consists of an array of primary and secondary stations located throughout the state as indicated in Figure 1. The functions of the primary stations are more complex than the secondary ones in terms of the array of monitoring instrumentations and data processing. Each of the four primary stations is automatic and carries out a broad array of monitoring measurements as shown in Table 1. These measurements include not only pollutant concentrations but meteorological factors as well. The primary system has generally been operational with the exception of the telemetry and electronic data processing equipment.

TABLE 1

INSTRUMENTATION - PRIMARY AIR QUALITY MONITORING SYSTEM

<u>Site</u>	<u>Wind Speed</u>	<u>Wind Direction</u>	<u>Tape</u>	<u>SO₂</u>	<u>NO₂</u>	<u>O₃</u>	<u>TO_x</u>	<u>TH_c</u>	<u>CO</u>	<u>RAD</u>
P-1	X	X	X	X	X	X	X	X	X	X
P-2	X	X	X	X	X	X	X	X	X	X
P-3	X	X	X	X	X	X	X	X	X	X
P-4	X	X	X	X	X	X	X	X	X	X

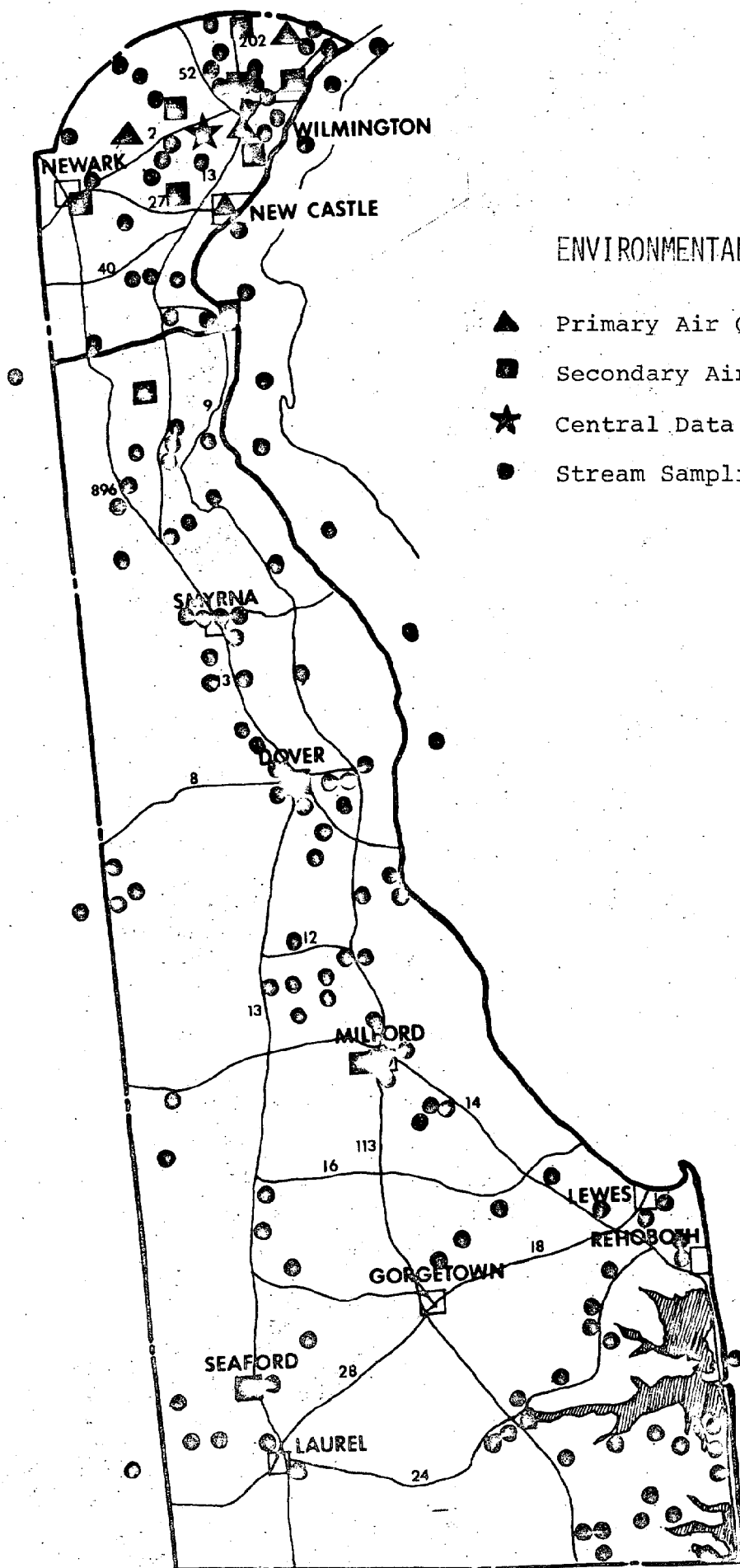


Figure I.

ENVIRONMENTAL QUALITY THROUGH MONITORING

- ▲ Primary Air Quality Monitoring Stations
- Secondary Air Quality Monitoring Stations
- ★ Central Data Processing Station
- Stream Sampling Stations

The primary air quality system has been operational with respect to all instruments. Three instruments in each of the primary stations have produced continuous valid data over the past year. Seven instruments for other pollutants have been maintained in a standby condition due to a lack of an operating data acquisition system.

The telemetry and electronic data processing system for the Primary Automatic Continuous Air Quality Monitoring System continues to present serious difficulties. The original system was designed by Litton in such a way that data is not forthcoming unless the data processing units function--a recorder for each sensor is lacking. Detailed systems evaluations have been completed, but corrective work has been hamstrung due to indecision on the part of the Federal Environmental Protection Agency (EPA), whose prior endorsement of the project is required. Plans to update air monitoring instrumentation in compliance with federal requirements have likewise been stymied due to lack of decision on the part of EPA.

The secondary air monitoring system consists of eleven (11) completely operational stations equipped with the array of monitoring instruments shown in Table II.

TABLE II

INSTRUMENTATION - SECONDARY AIR QUALITY MONITORING SYSTEM

<u>Site</u>	<u>SO₂ Cond.</u>	<u>SO₂ Color</u>	<u>NO₂ Color</u>	<u>Pb Candle</u>	<u>Tape AISI</u>	<u>H-V</u>	<u>Dustfall</u>	<u>Meteor.</u>
S-3	X	X		X	X	X	X	
S-4				X	X	X	X	
S-5	X			X	X	X	X	
S-6	X			X	X	X	X	
S-7	X			X	X	X	X	
S-8		X		X	X	X	X	X
S-9	X			X	X	X	X	
S-10				X	X	X	X	
S-11		X	X	X	X	X	X	
S-12				X			X	
S-13				X			X	

While the typical secondary station is considerably less complex than a primary station, it serves to fill in the areas between the primary stations so as to provide a firm basis on which to evaluate air quality. Stations are located to monitor general air quality in high-pollution industrial areas, as well as "cleaner" residential suburbs. The stations serve to provide not only an indication of "worst case" of pollution situations in the state, but also provide effective measurement during emergency situations.

All instruments in the secondary system have been operational during the past year. Instrumentation for the system consists essentially of pollutant monitors, although meteorological parameters are being measured at one site. Colorimetric sulfur dioxide detection equipment replaces the older and conductometric instruments at S3, S8, and S11 in compliance with federal guidelines for air monitoring instrumentation. Two additional sites were added to the system at downstate locations at S12 in Seaford and S13 in Milford. These two stations will be brought to full on-line status in the coming year.

In addition, the Section maintains and operates three air sampling stations as part of the National Air Sampling Network (NASN) in cooperation with the Federal Environmental Protection Agency. These stations provide air quality information concerning sulfur dioxide, nitrogen dioxide, and particulate levels. Unlike the primary and secondary systems, the NASN stations do not provide a continuous record of pollutant levels in the atmosphere.

Utilizing available equipment in the Section, two mobile air monitoring stations were fielded last year. These units provide measuring capability of street-level concentrations pollutants. Instrumentation currently includes monitors for sulfur dioxide, hydrogen sulfide, particulates, wind speed, and wind direction. This surveillance capability has proven an effective tool in assuring compliance with Delaware's ambient air standards and has been instrumental in a number of recent court cases.

Special surveys have been completed for sulfur dioxide levels in the Delaware City area, particulates in the Marine Terminal area of Wilmington, and nitrogen dioxide levels in Wilmington.

WATER

Water quality surveillance programs for Delaware's lakes, bays, streams, canals, and rivers has continued.

Most of the streams in the major drainage basins were sampled at least once a month. The surveillance also includes analysis of effluents from all major industrial and municipal treatment facilities. Routine inspections of all these facilities have been maintained by the Section.

The laboratory has continued its program to aid numerous industrial and municipal treatment plants in the establishment of their own water quality surveillance programs by availing staff expertise. This has proven effective in substantially extending the scope of Delaware's water quality program without additional manpower. It provides the capability to improve and more closely control effluent quality. Although problems still exist, numerous industries have felt the need to dedicate personnel to active sampling programs and have responded favorably.

Although investigation of emergency situations at times puts stress on available manpower, the number of instances during the past year dropped from 173 to 40. The kinds of problems are diverse: oil spills, toxic chemical spills, acid spills, fish kills, sugar spill, contaminated domestic wells, septic tank overflows, landfill contamination of water supplies, algae blooms, ammonium sulfide spill, phenol spill, gasoline spill, sludge dump, and sewer line rupture.

Surveillance of water quality has involved an extensive effort. The following provides some insight into the scope of the project:

<u>Surveillance</u>	<u>No. Times Sampled</u>
Waste Treatment Plant Effluents	221
Industrial Effluents	361
Streams, Lakes, Rivers	194
Emergencies	40
Treatment Plant Inspections	100

Special studies in water pollution during the past year have included ocean dumping of raw sewage, sediment analysis of rivers, bays, and lakes, effectiveness of chlorination of final treatment plant effluents in reducing bacteria, and contamination of lagoons by domestic septic systems. The laboratory processed an estimated 3992 samples. The breakdown is as follows:

<u>Origin</u>	<u>No. Analyses</u>
Streams	1900
Sewage Treatment Plant	612
Industry	876
Wells	160
Oil (Sulfur)	24
Dye and Phenol	45
Miscellaneous	375
	<u>3992</u>

To provide a concept of the scope of this effort, analyses of these samples required over 2560 bacteriological determinations and 11,172 heavy metal measurements. An estimated total of 59,880 analyses have been conducted in support of the Division's programs. In addition, the laboratory now has the capability for conducting pesticidal measurements on water on a routine basis.

The improvement of the water quality within the Delaware River Basin represents a cooperative interstate effort on the part of Delaware, New Jersey and Pennsylvania. Surveillance of the water quality of the Delaware River is carried out by the Section under contract to the Delaware River Basin Commission. During the past year, approximately 20 river studies were conducted and over 8 industries and streams sampled on a monthly basis. These studies required an estimated 5,892 analyses by the laboratory.

A research proposal to develop an ecological warning system for Delaware Bay has been prepared. The study will be conducted by the Department of Natural Resources and Environmental Control to prepare the needed methodology for the establishment of an ecological warning system. Selected for this demonstration is the concentration variation of heavy metals in an estuarine system, the interaction of pollutants with other inputs into the system, and the entry of these materials into the human food chain. This research program not only will result in the development of predictive models, but also will develop the methodology that may be used for the evaluation of all contaminants having access to the system. Thus, this program represents two unique opportunities for study of a rapidly expanding coastal area and important natural resource.

Technical Services has also assisted a number of other state agencies with their programs in terms of providing technical expertise and chemical analyses. These agencies include the Department of Health and Social Services, Department of Highways and Transportation, Department of Agriculture, Medical Examiner's Office and the Department of Labor. In addition, speakers have been provided a number of interested groups and organizations.

ENVIRONMENTAL CONTROL ADVISORY COUNCIL

1972 ANNUAL REPORT

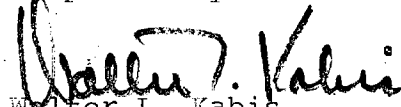
In reporting to you on the annual activities of the group of which I am Chairman, I find it difficult indeed to separate its various functions under Water and Air Resources Commission, Environmental Council, and Appeals Board headings, since their functions are so uniquely interjoined. I trust you will accept, therefore, a general report covering the activities of all three.

We held a total of thirty-seven meetings, hearings, and on-site tours with increasingly lengthening agendas due to a significant rise in matters requiring our action.

Regular monthly meetings in Dover were always all-day sessions, usually of eight or more hours duration. Hearings also were lengthy, requiring no small amount of "homework" both before and after. Most Council meetings, scheduled in Odessa, lasted about four hours. Conservatively calculated, the sum total of Commission time covered by this report comes to an impressive one thousand one hundred seventy-six (1,176) man-hours in dedicated service contributed to the State of Delaware.

The encouragement and assistance given us is appreciated, as is the considerable support received through the Department and we look forward to an increasingly productive year.

Respectfully submitted,


Walter L. Kabis
Chairman

DIVISION OF FISH AND WILDLIFE

INTRODUCTION

The Division of Fish and Wildlife has the state-wide responsibility to protect, conserve and propagate all species of fish and protected wildlife in Delaware, to enforce the laws relating to fish, wildlife, dog control, and boating and to control the pestiferous insects. By working as a team, the four sections of the Division - Fisheries, Wildlife, Technical, and Mosquito Control - are able to perform efficiently and start new biological programs to better provide the public with information and facilities to enjoy our fish and wildlife resources.

FISHERIES SECTION

This section is responsible for the development and maintenance of fishing access areas, fish stocking, sportfishing tournament and the small boat safety program.

During fiscal 1972, the thirty fishery areas were maintained which included grass cutting, waste collection, general carpentry and masonry repairs. Sanitary facilities were provided on the areas of major use. The areas of major development were Andrews Lake, Bowers Beach and Cedar Creek. The work at Andrews Lake consisted of tree clearing and development of a roadway and parking lot in order to provide access to the lake for fishing. Construction work at Bowers Beach included repairs to an existing launching ramp structure and installation of a new sea wall or bulkhead. Construction of a new parking lot and three new launching ramps at Cedar Creek was initiated.

In addition to actual construction plans and proposals for funding, the construction of three new water control structures were prepared.

The freshwater trout stocking program was a great success, mainly due to the continuance of stocking trophy trout in several additional streams in New Castle County. One very popular innovation was the creation of a "fly-fishing only" stream. Here, anglers were permitted to fish only with artificial flies and fly rods. Due to the increased popularity in the trout program, trout stamp sales continued to increase.

In fiscal 1972, the Delaware State Sportfishing Tournament completed it's first year under the management of the Division of Fish and Wildlife. The interest in

the tournament exceeded all expectations. Approximately 2,500 entries were recorded by the volunteer weight stations. Trophies were awarded to individual category winners and a master fisherman award was given for the first time.

The small boat safety program was enlarged with the assistance of funds provided by the Federal Motorboat Act. An additional marine officer was employed and contracts for two new patrol boats were originated. A continued expansion of the program is expected.

MARINE ENFORCEMENT

The main objective was the enforcement of shellfish laws, boat safety, and the general welfare of the boating public.

The marine environmental protection officers attended training classes at the State Police Academy on enforcement procedures and attended classes at Delaware State College on basic ecology.

Special assignments were made in the areas of boat ramps to relieve congestion, especially on weekends. This assignment entailed assistance in loading and unloading boats and in auto and trailer parking.

Marine police boats patrolled the oysters, crab and the clam areas of the state, as well as performing search and rescue missions.

In fiscal 1972, this group embarked on a program of public assistance which provided assistance in the form of towing, and other services, to seventy-eight boaters in distress.

WILDLIFE SECTION

The Wildlife Section is responsible for the protection, conservation and propagation of all forms of wildlife and the operation, maintenance and development of state-owned wildlife areas for public hunting and other associated forms of outdoor recreation.

Delaware's wildlife lands, comprising 24,575 acres in eleven major areas, especially the marsh lands, have been considered by some in the past to be nothing more than mosquito producing wastelands. Now, their values in the ecological chain, both from the fish and wildlife aspects, are becoming better recognized by the general populace. These lands are also increasing in importance in recreational value in these days of fast living, expanded land development and increasing populations. State lands alone in the 1971-72

hunting season provided an estimated 15,300 man-days of hunting for waterfowl and other migratory birds visiting Delaware's marsh lands during their migratory season. Another 10,690 man-days of hunting were experienced in hunting other forms of game, including deer, rabbit, quail, pheasant, raccoon and fox. Other activities such as bird watching, nature study, photography, dog training, horseback riding, picnicking and related forms of outdoor recreation occurred on these state lands providing an estimated 110,000 man-days of recreation.

Wildlife operation personnel performed various duties and services to provide this recreational opportunity. Included was the development and maintenance of 22 buildings, 13 marshes, 5,168 feet of dikes, 11 bridges, 34 miles of roads, tilling and planting 1,110 acres of land to wildlife food and cover crops, 28 parking lots, 61 duck hunting blinds, 4 small boat ramps, and the installation and maintenance of over 500 signs and boundary markers.

Important also in providing this recreational opportunity was the raising of 1,200 pheasants for a special put-and-take pheasant season held on eight (8) wildlife areas throughout the state.

The environmental protection officers, principally oriented towards wildlife protection, consisting of ten field officers and one supervisor, were charged with enforcing State game and fish laws state-wide. Considerable added emphasis was placed on enforcement of migratory bird regulations and seasons in cooperation with the U. S. Fish and Wildlife Service. This staff, although primarily involved in enforcement work, provided a major tool in relating to the public the Division's programs, policies and important events as well as servicing the many requests by private citizens for assistance in such things as wildlife crop and animal damage and pest animals. Under the coordinated environmental protection officer system of the Department of Natural Resources and Environmental Control, this staff of men also assisted the Fisheries Section in marine and shellfish patrol work, small boat safety and rescue work, and the Parks Section in park area patrol.

FIREARM AND HUNTER SAFETY TRAINING PROGRAM

The purpose of the program is to enhance the safety and well-being of firearm users by providing instruction in the safe use of firearms.

The hunter safety course is given by a corps of Delaware sportsmen who have been examined and trained to conduct hunter safety courses throughout the state. Volunteer hunter safety instructors are assisted by state environmental protection officers in scheduling, promoting and teaching these courses.

Each student is required to attend at least six hours of formal instruction in the knowledge of guns and ammunition, proper handling, safe hunting methods, courtesy and sportsmanship, principles of game management, and game laws of Delaware. He is required to pass a written examination before obtaining his certificate of competency. State law requires all persons between the ages of 15-19 to have satisfactorily completed the course before application can be made for a resident hunting license. The course is open to the public and is free of charge.

During the 1972 fiscal year, an additional 21 instructors were certified, bringing the volunteer instructor force to 135. Individual classes of from 12 to 40 students produced 1,537 certified students, bringing the total of trained students under the program in two years to 4,737.

DOG CONTROL PROGRAM

The dog control program was contracted to the Society for the Prevention of Cruelty to Animals (SPCA), "state-wide", for the first time. This control program is important because of the unbelievable numbers of dogs running at large, and their detrimental influence on human safety and welfare, as well as on other domesticated animals.

This program was operated on a cost basis utilizing physical facilities already required by other functions of the SPCA. The program is funded primarily by receipts from the sale of dog licenses and is also supported by supplemental general fund appropriations.

DELAWARE BAY

During fiscal 1972, Delaware oyster planters harvested 54,770 bushels of market oysters. These oysters had a dockside value of \$246,505. Delaware oystermen also harvested and planted 77,975 bushels of seed oysters in Delaware Bay. These seed oysters will be harvested as market oysters during the fall and winter of fiscal 1973. Delaware's market oyster catch during fiscal 1973 is expected to be in excess of 90,000 bushels. An additional 10,800 bushels of seed oysters were planted on the state supervised public oyster tonging bed.

Fisheries biologists are in the process of surveying and mapping all of the natural seed oyster beds in Delaware. Formerly unproductive seed oyster beds are coming back into production as a direct result of the continuous shell planting program. During fiscal 1972, an additional 200,000 bushels of surf clam shells were planted on state seed oyster beds at no cost to the State of Delaware.

A heavy metals monitoring program has been started as a cooperative effort between the Department of Natural Resources and Environmental Control and the University of Delaware Sea Grant Program.

SPORTFISHING SURVEY OF THE DELAWARE ESTUARY

The development of public access areas for sport fishermen to the Delaware Estuary required an account of fishing pressure in the estuary and of those areas receiving the greatest demand for access. Aerial surveys, personal interviews, and car counts were conducted from July through September, 1971, on the estuary from the C & D Canal to Lewes to obtain this information.

Aerial surveys of fishing boats in the estuary revealed that 300,481 man-days were spent sportfishing from May 30, 1971 through September 30, 1971. Private boat fishermen were in the majority followed by shore fishermen and party boat fishermen. Most fishing occurred from Port Mahon south to the Lewes breakwater.

Personal interviews and car counts were conducted at five major public boat access sites (Augustine Beach, Woodland Beach, Bowers Beach, Cedar Creek and Lewes) and along the C & D Canal concurrently with the aerial surveys. Persons interviewed reported catch by species, number of people in party, and hours the party fished that day. The total number of fishes landed in Delaware by Delaware Estuary sport fishermen was 2,441,944 from May 30, 1971 over 1968 landings. Sea trout (*Cynoscion regalis*) comprised 89% of total fishes reported by boats and white perch, (*Morone americana*) led shore landings at 34%.

Delaware residents composed 56% of the sport fishermen fishing from boats in Delaware. Non-resident usage was highest at the southern access facilities near resort areas. Public access facilities did not meet the public demand for parking on peak weekend days.

This federal aid project is continuing in 1972 with surveys running from May 28, 1972 into October, 1972.

TIDAL STREAM SURVEY

Indian River, Rehoboth Bay and Assawoman Bay were included in the second year of this federal aid Project in addition to the 14 tidal streams already being sampled. Benthic invertebrates, fish larvae and fish species were collected biannually from 33 stations. Special emphasis was put on numbers, sizes, and distribution of sport fish species.

Water quality data including dissolved oxygen, pH, alkalinity, salinity and water temperature were taken concurrently with biological collections at all stations. Bottom contour, stream depth and width, tidal condition, and bottom composition were also noted.

Benthic invertebrates were analyzed to determine volume of fish food organisms/square foot. Measurement of all fishes, by species, in inch classes were made to determine estimated total lbs. fish/surface acre. The importance of these creeks as spawning and nursery areas for fish species of the Delaware River Estuary were investigated. All data for each stream were correlated and analyzed to pinpoint problem areas and areas able to support increased fishing pressure.

The second phase of this project is determining the biological recovery of Red Clay Creek in which zinc chloride effluents have been terminated. Four stations are being sampled quarterly for plankton, benthic invertebrate and fish species. Water samples are taken to determine pH, dissolved oxygen and alkalinity. The volume of fish food organisms, total lbs. fish/surface acre and pounds game fish/surface acre are being calculated for each station.

TROUT FISHING PROGRAM

The 1972 freshwater trout fishing program was another success according to the replies that fishermen returned to the Division of Fish and Wildlife. More available money in 1972 allowed the number of trophy sized fish to be increased over the 1971 program.

Delaware trout fishermen also had favorable comments about the variety of the large fish this year. Rainbow, golden (rainbow), brown, brook and tiger (brown & brook) trout were stocked that were up to 26 inches long. The success of the 1972 program will pave the way for a greater season in 1973.

STATE HUNTING AREAS

As in the past, voluntary "windshield" surveys were conducted on five state hunting areas to determine hunter use and success. Survey cards were placed on hunters'.

vehicles with a request that the cards be completed and tacked to a nearby tree. Waterfowl hunters on the state's three primary hunting areas were required to register at a checking station and fill out a report of their kill. A new survey was undertaken to determine the accuracy of the identification of waterfowl reported by hunters using state areas.

Upland hunter use increased slightly in 1971 as compared to 1970. Hunter success remained remarkably high in light of the high number of hunters.

Waterfowl hunting pressure increased slightly in 1971. Although mild weather caused a shift in the distribution and pattern of the kill, the overall waterfowl hunter take increased by 8% over 1970. A new raffle system was initiated at Little Creek and Woodland Beach to insure an equitable system of blind distribution. Hunter acceptance of the raffle was excellent. An experimental early closing time on both areas was also undertaken in an attempt to increase the quality of hunting.

The 1971 special pheasant season was a repeat of the successful 1970 season. The system of controlling the number of hunters in the field at one time continued to work well. No shooting accidents were reported. Although the number of pheasants released remained similar to previous years, more frequent stockings made hunting more rewarding throughout the weeklong season.

REGULATIONS

A court case in November, 1971, cast doubt on the effectiveness of the Division's hunting regulations. Because many of the regulations were outdated and their legal status was uncertain, all regulations were rewritten and readopted. The new regulations, completed with the assistance of the Attorney General's office, are technically correct and clear, and should effectively help manage the state's wildlife resources.

BANDING

The Division, with the assistance of federal personnel, banded migratory birds in an attempt to find out more about their life history and habits. During 1971-1972, a total of 513 ducks, 923 Canada geese, 17 mourning doves and 21 osprey were captured and banded. Banding helps to find the information needed to manage migratory birds.

DEER

The shotgun season of 1971 set a record for the deer harvest in Delaware. A total of 1,073 deer were checked, as required by law, during the November season. An additional four deer were taken by archery hunters during the 10 week bow and arrow season.

Examinations of the animals brought to the checking stations, showed that Delaware's deer are in excellent condition. Both the average weights and the young to adult ratio remain highly favorable. Because of good habitat and sound harvest management, Delaware's deer herd remains in good shape. The distribution of the kill was similar to previous years with the coastal fringe and western Kent and Sussex counties having the highest kill.

A new project was undertaken to study the extent of deer-motor vehicle collisions in Delaware. From January 1971 through June of 1972, a total of 128 deer were killed by cars and reported. An average of 8.25 deer per month were reported killed. Since only a fraction of the total deer-vehicle accidents are reported, it is estimated that at least 200 deer are killed annually on Delaware's highways. The greatest number of reported kills occurred in the Bridgeville area.

BLACK DUCK PRODUCTION STUDIES

In July of 1971, 50 immature black ducks were released on the Woodland Beach study area. An additional 167 birds were released in February of 1972. These birds were liberated as part of a four-year program to attempt to establish a colony of black ducks nesting in boxes.

During the spring of 1972, 20 black duck hens nested in the elevated nesting structures. Although the 1972 box use was double the 1971 use, the birds have yet to sustain a self-supporting population. One interesting aspect of the project is the birds' acceptance of the boxes over freshwater ponds, and their failure to use boxes placed on the salt marsh.

GROUSE

Delaware's hope of establishing a ruffed grouse population increased with the stocking of 16 wild birds from Massachusetts. These birds were released on the Nanticoke Wildlife Area where 47 other grouse were released in the previous three years.

Surveys conducted during the spring of 1972 revealed that the males were "drumming" to attract females, a sign that may indicate reproduction. Several birds were reported seen throughout the year, so at least a few remain on the area.

The Division hopes that eventually the population will increase and serve as a nucleus for restocking other parts of Delaware.

HUNTER SURVEY

A new state-wide mail survey was undertaken in 1972 in an attempt to better understand the Delaware hunter and his needs. A questionnaire with a postage-paid envelope was mailed to 1,585 randomly selected Delaware resident hunters. Returns were received from 1,060 residents after two mailings. Both the response rate and the data supplied showed excellent cooperation on the part of the hunters.

Results of the survey indicated that the cottontail rabbit is Delaware's most popular game animal. Over half of the respondents indicated that they hunted rabbits at least once in 1971-72. Deer and squirrel were close behind rabbit in popularity, followed by waterfowl in fourth place. Other popular species included quail, mourning dove, pheasant, woodcock and woodchuck.

It is estimated that Delaware's 23,267 licensed hunters spent 302,351 days afield in 1971-72. Slightly over 4,000 hunters paid for the privilege to hunt. Almost 7,000 hunters (or 29%) used state hunting areas at least once during the year. These state lands provided hunting opportunities for 46,000 man-days of hunting in 1971-72.

The survey yielded interesting results. Hopefully, the information gained can be used to better manage the state's wildlife resources.

MOSQUITO CONTROL SECTION

This marked the first full year of operation since the Mosquito Control Section's transfer from the Department of Highways and Transportation to the Department of Natural Resources and Environmental Control.

The ditching accomplishments by this Section's regular appropriations amounted to 595,075 linear feet by both machine and hand cleaning methods. Also, 28,374 square feet of hand brushing of ditch right-of-ways were accomplished. This work was represented in all three counties.

Minor repairs were made to the impoundments throughout the year, such as pump repairs and electrical motor overhauls. Major dike and electrical line breakdowns were repaired as needed. Foot bridges were constructed, and repairs were made to water control structures.

The total acreage treated by aerial spraying during Fiscal 1972 was 113,367 acres; more than 60% greater than the acreage sprayed in 1971. This increase was due to above normal rainfall and excessive lunar tides during the first three months of the year.

To supplement the aerial spraying, Thermo Aerosol fogging machines were employed in the three counties, dispersing some 760 gallons of Dibrom solution. Furthermore, 852 gallons of Baytex (oil diluted) were dispersed by hand and power sprayers to combat mosquito larvae, plus 192 gallons of Abate (water diluted), 15 gallons of Flit MLO and 3,335 pounds of Abate granular.

In the field of research, the Department of Entomology and Applied Ecology, University of Delaware, evaluated new compounds Chevron 11775, SBP-1382 and Sunoco oils 6E and 10E in their Micro-marsh pools at the Agricultural Farm. All, with the exception of Chevron 11775, showed promise as candidate materials to be used on the salt marsh areas.

One human case of Eastern Encephalitis (EE) occurred in Dover, Delaware. No confirmed equine cases were reported. Intensive spray operations were carried out in the vicinity (Towne Point) of the victim's home, as well as all locations visited prior to her death.

Emphasis was placed on safety with meetings being held monthly to correct any safety hazards. Over the year, these meetings have proven beneficial to this Section.

SHELLFISHERIES ADVISORY COUNCIL
1972 ANNUAL REPORT

The Shellfisheries Advisory Council of the Department of Natural Resources and Environmental Control, Division of Fish and Wildlife, met on the following dates: July 27, 1971, August 31, 1971, September 14, 1971, October 5, 1971, February 9, 1972, March 1, 1972, April 26, 1972, May 3, 1972 and June 14, 1972.

The Council reviewed a list of fiscal year 1972 boating and shellfish violations. Violations were discussed at this time with indications of insufficient Environmental Protection Officers to apprehend violators.

Chairman Muir suggested that a letter be sent to all oyster ground lessees giving regulations that they must comply with including staking, cultivating and planting of oysters, and that they be given a time limit.

The Council recommended unanimously that all oyster grounds be surveyed and lines established on all leased grounds by a registered surveyor of the State of Delaware.

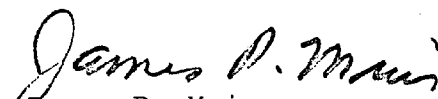
It was recommended by the Council that the State seed oyster beds be opened on the 1st of May 1972. The beds were opened on that date and 77,975 bushels of seed oysters were taken by the commercial oystermen and transferred to their leased beds. State personnel also supervised the moving of 10,800 bushels of seed oysters to the public tonging area.

At several meetings, the Council discussed ways and means of obtaining additional funds in order to operate the small boat programs with more efficiency. Action was never taken on this matter.

The Council met and reviewed and discussed the Shellfish Law Revisions. The Revisions were unanimously accepted as submitted.

It is the plan of the Council to continue regular meetings at the call of the Chairman of the Advisory Council or the Secretary of the Department of Natural Resources and Environmental Control.

Respectfully submitted,


James P. Muir
Chairman

FISH AND WILDLIFE ADVISORY COUNCIL

1972 ANNUAL REPORT

The Fish and Wildlife Council continued to hold their August and September meetings under their elected chairman of 1971. On September 19, 1971, three of the original members' terms expired -- Ray C. McDowell, Thomas F. Bayard, III, and John W. Whitby. These were replaced by the appointment of one new member -- Mr. George Shilling.

During the October meeting, the Council reorganized as follows:

W. Paynter Sharp, Chairman
Irvin Evans, Vice Chairman
Reese White, Secretary
Franklin Tarburton
Samuel Tyndall
George Shilling
Frank Lynch

The Advisory Council continued to meet during Fiscal Year 1972 on the regular meeting date of the last Tuesday of each month, except for the month of December and the month of April, when a public hearing on game and fish laws was held.

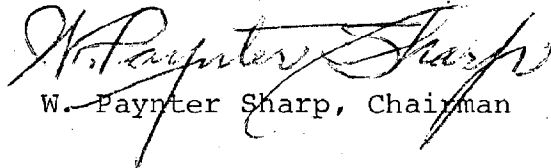
At each meeting, Council received written progress reports on the various Federal aid projects that were ongoing. Regular review of the programs of all three sections of the Division was made.

Major recommendations and action by the Council are as follows:

1. That the Secretary of the Department of Natural Resources and Environmental Control continue to seek and hire a qualified Director for the Division of Fish and Wildlife. A new Director was hired on January 1, 1972.
2. Cooperated with the staff of the Division of Fish and Wildlife in proposing and setting hunting and fishing seasons after holding a public hearing.
3. Supported non-resident trout fee increase from \$2.10 to \$5.25.

4. Supported legislation to establish a tidal-water fishing license.
5. Drafted legislation to increase penalties for illegal night hunting of deer. (Was not enacted into law)
6. Following public hearing assisted in the revision of regulations affecting fish and wildlife and the use of state lands.
7. Recommended that the Secretary place top priority on the acquisition of lands bordering Broadkill River for expansion of small boat access.
8. Supported immediate legislation to place a moratorium on all future dredging and filling of tidal wetlands for a sufficient period to conduct investigations that would provide a plan for their protection to ensure the biological productivity of the inland bays and their enjoyment by the people and visitors of Delaware.

Respectfully submitted,



W. Paynter Sharp, Chairman

DIVISION OF PARKS, RECREATION AND FORESTRY

INTRODUCTION

The Division of Parks, Recreation and Forestry is responsible for the operation and maintenance of nine state parks containing over 6,900 acres and four state forest tracts totalling 6,327 acres. These areas served 3,440,925 visitors during fiscal year 1972. The Recreation Section administered \$302,478 in grants to assist communities and local governments in recreation programming and parkland acquisition and development. The continuing overall goal of the Division is to provide recreational opportunities while preserving our natural resources. The work of the Division was described and pictured in a major article in the Spring, 1972 issue of Delaware Conservationist.

PARKS SECTION

Master plans are currently being developed for four parks: Cape Henlopen, Delaware Seashore, Brandywine Creek and White Clay Creek, by the consulting firm of Chas. T. Main, Inc., of Boston. A joint interim report on the environmental and recreational resources of the two coastal parks has been completed and is now under study by Division staff members and advisors. Experience in the development of such plans, already completed for Lums Pond and Killens Pond State Park, has clearly demonstrated the value of surveys and planning by a team of highly skilled ecologists, engineers, and recreation specialists.

After making a nationwide study of the user fee system as a source of park operation funding, and under authority granted to the Department by the enactment of H.B. 893 by the 125th General Assembly, the user fee charge was instituted on August 6, 1971.

Annual permits are offered to Delaware residents for \$5.00. Essentially a vehicular or parking charge, the daily fee (valid within all state parks on that day) is collected according to the following schedule: \$1.00 per day per vehicle - not to exceed ten passengers; \$2.00 per vehicle exceeding ten but less than twenty passengers; \$5.00 per vehicle with more than twenty passengers. The fee is collected at outdoor contact stations during the peak visitation season, from Memorial Day through Labor Day.

The enabling legislation stipulated that the income be earmarked for parks in order to achieve higher standards of Maintenance and Operations, and an expansion of Public Services. It has been designated the MOPS Program. The Division's goal

PARK ATTENDANCE

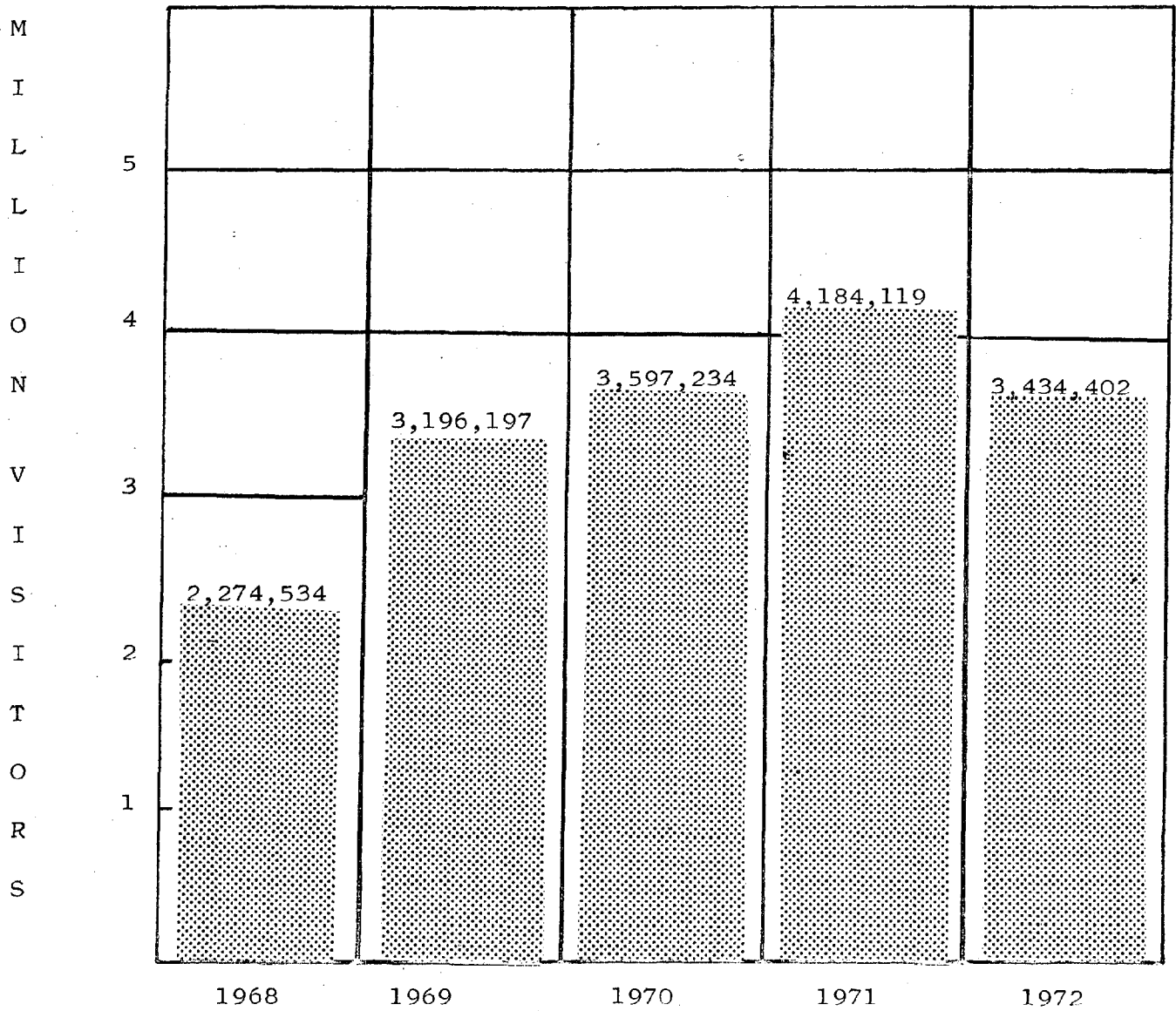


EXHIBIT A

DIVISION OF PARKS, RECREATION AND FORESTRY
ACTIVITIES COMPARISON 1971-1972

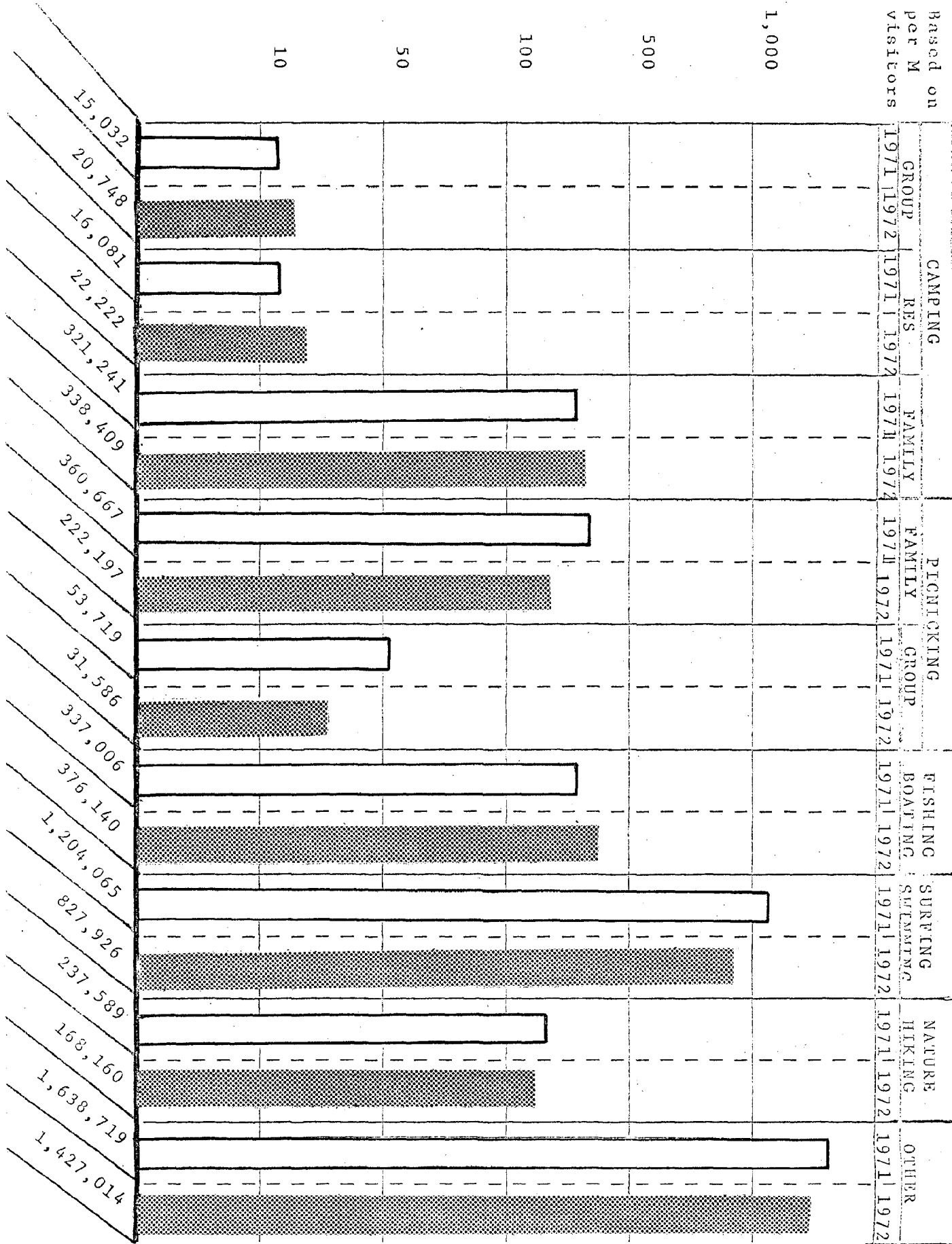


EXHIBIT B

is to provide by 1978 a \$2,000,000 annual MOPS Program, 50 percent of which is to be derived from revenues such as camping, boat rental, concession, and user fees.

As a result of the user fee, new services were made available in the form of naturalist and interpretive programs at Killens Pond and Lums Pond State Parks. State services at Brandywine Creek were expanded considerably. At Cape Henlopen State Park a former army base guardhouse, which has served as a park visitor center since 1966, was completely renovated during the past winter and was rededicated March 30 as the Seaside Nature Center. Here, too, environmental and nature interpretive services have been increased in season length and in variety of activities.

After consultation with representatives of various camping groups and private campground owners associations throughout the State, the Department on August 6, 1971, increased its camping fees to \$3.00 per night per site and 50¢ per night for electricity.

The attendance during fiscal year 1972 (Exhibit A) indicated a decrease of approximately 749,717. This decrease was expected due to the implementation of the park user fee. During the nationwide survey that was conducted all states reported a decrease in attendance as a result of fee charges. Statistics showed that after a reasonable period of time (in the case of Michigan - 3 years) the attendance increased and surpassed that established prior to the institution of the fee. Exhibit B, which indicates the various activities, reflects the decrease in day-use activities.

RECREATION SECTION

The Section's Recreation Assistance Fund Program permitted funding of 37 programs to communities and recreation agencies throughout Delaware.

The FY 1972 budget appropriation for this grant program was \$300,000, a \$100,000 decrease. Requests for recreation grants during the year totaled nearly \$700,000.

Recommendations for funding were made by the nine member Recreation Advisory Council. Section staff members followed each approved program to conclusion through on-site program visits, evaluation and financial record keeping.

The grant programs approved during the year resulted in the following distribution of funds: Kent County - eight programs \$43,361; Sussex County - nine programs \$35,546; New Castle County - eight programs \$108,504; City of Wilmington - twelve programs \$112,567.

The Division of Parks, Recreation and Forestry helped guide the Kent County Levy Court in the initiation of a County Parks and Recreation Commission. In June, 1971 Kent County Levy Court appointed its first Kent County Parks and Recreation Commission. This new Commission, with state help, during fiscal 1972 embarked on recreation programming in Kent County.

Our Division conducted the fourth Annual State-wide Playground Leaders Workshop for summer playground staff members. The University of Delaware Extension Education Division co-sponsored this program and provided Title I funds. Over 250 playground staff members participated in the two-day session, held on the University Campus in Newark.

Our Department, in cooperation with the University of Delaware's Summer Arts Festival, co-sponsored a state-wide traveling children's theatre. Over 9,000 children attended the sixty-three performances which were given in state parks, playgrounds, day camps, institutions and communities throughout the state. Excellent reviews resulted from the traveling children's theatre.

FORESTRY SECTION

During fiscal year 1972 twice as many (6,433) picnickers, hunters, hikers, horseback riders and primitive campers enjoyed the 6,300 acres of Delaware's State Forest Lands as during the previous year. Multiple-use facilities on Blackbird, Redden and Ellendale State Forests include picnic pavilions, approximately 15 miles of forest trails, abundant wildlife, and primitive camping sites.

Forest maintenance and silvicultural work by Section employees on the state forest and look-out tower sites included: salvage of \$2,018.29 of thinnings and diseased pulpwood, boundary maintenance and placing of corner monuments on recently acquired tracts, planting on open cut-over areas, and clean-up of fallen trees as a result of Hurricane Agnes.

Capital improvements include a new maintenance shop and office facilities at Redden and Blackbird and resurfacing the entrance road and construction of a new parking lot at Redden Forest Lodge.

U. S. FOREST SERVICE COOPERATIVE PROGRAMS

Forest Fire Extinction and Prevention

The Forestry Section has the responsibility of wildfire control on all forest lands (392,000 acres) in Delaware. The State is reimbursed by the U. S. Forest Service on a

50/50 matching basis for expenses incurred in wildfire control. Wildfires during fiscal year 1972 occurred only during the months of April, May and June: 11 fires burned a total of 58 acres. The largest fire destroyed 20 acres of loblolly pine plantation.

Instruments to rate meteorological wildfire danger were installed at Blackbird and Redden State Forests. The daily monitoring of basic fire behavior factors improves forecasting fire danger and manpower requirements. It also provides data for the Area Fire Forecasting Center in Baltimore.

During National Fire Prevention Week, Governor Peterson accepted three tilt-bed transport trucks and a crawler tractor/fire plow unit, valued at \$50,000 from the U. S. Forest Service, for use in the Cooperative Forest Fire Control Programs.

Excess equipment transferred from the U. S. Forest Service has greatly improved the operation and capabilities of the Forestry Section in its protection of Delaware's forest resources.

WATERSHED MANAGEMENT ASSISTANCE

Technical forestry assistance is provided for private woodland owners within designated watershed areas. Participants increased to 22 landowners involving 4,680 acres and 1,305,000 board feet of timber harvested. Landowners in the Marshyhope Creek Project area and the Upper Choptank Project area also were assisted.

The Delaware Timber Resource Survey made during January and February of 1971, updating 1958 information, will be released within the next six months. Losses of forest acreage in New Castle and Sussex Counties appear to be offset by increases in Kent County.

MANAGEMENT TRAINING

Thirty employees of the Department of Natural Resources and Environmental Control attended an Organization Management Training Course presented to the Department by the U. S. Forest Service during the week of February 14-18, 1972. The training course included seven basic elements of management--objective, policy, planning, organization, training, control and human element--and was designed to promote better service to the public through efficient and effective management of public programs. Secretary Heller participated in the critique on practical management and presented the diplomas at the graduation exercises.

FORESTRY ADVISORY COUNCIL

1972 ANNUAL REPORT

The Advisory Council on Forestry met five times during the year with a majority of members present. Mr. Clifford J. Donovan was appointed on June 20, 1971 to fill the expired term of Mr. Lorenzo Brittingham. Mr. Carmel L. Collins and Mr. Earl A. Lloyd were re-appointed on March 15, 1972 for a three-year term.

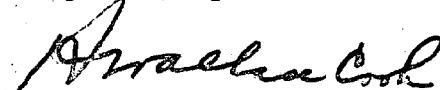
During the year, the Council received progress reports on forestry programs, land acquisition, and building construction. The F.Y. 1973 operating budget was also reviewed and accepted by Council members.

At the November 10, 1971 meeting, Secretary Austin N. Heller met with the Council to discuss in depth what the role of the Advisory Council should be in achieving the Department overall objectives and that communications was the key to success for effective Council-Department understanding. He urged Council members to seek knowledge and understanding of the various responsibilities and programs of the Department of Natural Resources and Environmental Control.

A special Council meeting was called on June 5, 1972 to discuss legislation introduced by Senator Elliott and a news article which appeared in several state newspapers. Minutes of this meeting indicate action recommended by the Council on the harvest of timber from state forest lands and legislation affecting forestry programs.

The Council believes that its function will best be realized by the attendance of all members at each meeting. The goal of the Advisory Council on Forestry is to have 100% attendance at future meetings.

Respectfully submitted,



H. Wallace Cook, Sr.
Chairman

PARKS ADVISORY COUNCIL

1972 ANNUAL REPORT

The Council on Parks serves in an advisory capacity to the Director of the Division of Parks, Recreation and Forestry and is appointed to consider matters relating to the preservation and protection of the scenic, historic, scientific, prehistoric and wildlife resources of the State for the purposes of public use and enjoyment and such other matters as may be referred to it by the Governor, Secretary of the Department or Director. The Council is also charged to study, research, plan and advise the Director, the Secretary, and the Governor on matters it deems appropriate to enable the Division to function in the best possible manner.

The Council held four meetings during the year and followed the policy of meeting on park areas whenever weather permitted. This enables Council members to receive an on-the-site review of facilities conducted by park personnel. Various other personal visits are made as time permits so that Council members keep oriented to latest developments. No meetings were held June 16, 1971 to January 12, 1972 due to lack of a quorum.

<u>Date</u>	<u>Place</u>
January 12, 1972	Dover, Delaware
March 22, 1972	Buena Vista
May 3, 1972	Dover, Delaware
June 28, 1972	Cape Henlopen State Park

At the January meeting, the Council received a progress report on the Six Year Goals for the Division of Parks, Recreation and Forestry. It was explained that the Division's Goals were subject to change when the Department reviews and establishes the overall program. Mr. John Bryson, Director of the Division of Environmental Control, explained House Bill 256 and its importance as it related to the Department. The Council endorsed the adoption of this legislation and agreed to work for its passage. The Council also sent a letter of commendation to Mr. Eugene Giza, Assistant Park Superintendent, who was credited with saving a life at Indian River Inlet on May 25, 1971 and received Presidential citation through the Red Cross Certificate of Merit. It was explained that Mr. Giza is the third recipient of this award in the history of Delaware.

The Chairman of Council attended budget hearings of the Joint Finance Committee, Legislative Hall, Dover, in February in behalf of the Advisory Council on Parks. The

Chairman urged that sufficient monies from the General Fund be made available to at least match fees collected from park users. The Council believes a balance must be maintained between appropriations and revenues to assure service to the general public. Monies coming in under the park user fee are earmarked for park maintenance, operations and public services in the legislation which authorized the program.

On February 1, the Council authorized the Chairman to send a letter to Dr. Norman Dill, President of Delaware Conservation Education Association, expressing support for the proposed State Plan for Environmental Education. The Council stated "A quality program of environmental education in Delaware will increase public understanding and support for Delaware state parks and conservation areas-for a quality environment. We recognize the importance of your goals and the progress already being made in attaining effective levels of (1) Curriculum Development in Environmental Education and (2) Teacher Education. We feel confident that the Department of Natural Resources and Environmental Control can contribute in a major way to reach your goals in (3) Adult Education".

In March, the Council joined with the Advisory Councils of the Department in a meeting with the Governor and the Secretary at Buena Vista. It was a fine opportunity to share concerns of the total Department and discuss general procedures for communication and liaison. Members of the Council who attended have expressed desire for further opportunity to develop guidelines on advisory responsibilities and plans of work as well as to inter-relate with other advisory councils and divisions of the Department.

The May meeting of the Council was largely devoted to a thorough discussion of the park user fee instituted in state parks during this past year. Members of the Council can be of service in relaying comments from the public as well as endeavoring to interpret the purpose and goals of this program. The Division is studying the operation and guidelines as set out in the legislation implementing the user fee system. The Council went on record as supporting the Department's policy of opposing any substantial changes to the system for the next three years, and agreed to bring the matter to the attention of Governor's Advisory Council.

The Council also discussed the local parklands assistance program available from the State. The Council suggested that we inform all governments concerning the monies available under House Bill 326 and that each county

should get its share. The Council also agreed to support the passage of Senate Bill 53, which continues the program of parkland acquisition and development monies for local parks.

On June 28, the Council began a series of meetings in state parks for the purpose of including on-the-site orientation on our agenda. This session included a tour of the Seaside Nature Center and Cape Henlopen State Park. The nature center was of special interest because it had been newly renovated and improved through monies derived from park user fees. This is part of what is designated as public service under the MOPS program.

Council members are awaiting the opportunity to review preliminary reports on the development of master plans currently underway for Brandywine Creek, White Clay Creek, Cape Henlopen and Delaware Seashore State Parks, under contract with Charles T. Main, Inc. These master plans will provide guidance and set policy for use of State parklands for many years to come and so, are of major interest to the Council. It would be Council's plan to evaluate the proposals from the viewpoint of service to the general public and citizens and guests of Delaware.

Respectfully submitted,

Leah L. Roedel

Leah L. Roedel
Chairman

RECREATION ADVISORY COUNCIL

1972 ANNUAL REPORT

In accordance with House Bill 453 as amended by House Amendment No. 2, I am submitting the 1972 annual report of the Recreation Advisory Council.

During FY 1972 there continued to be a growing demand for community recreation programs and activities throughout the State. Grant requests for the appropriated \$300,000 exceeded \$805,000 during this fiscal period.

In order to meet the greatest recreation needs the Recreation Advisory Council recommended funding 37 programs in the total amount of \$299,980.

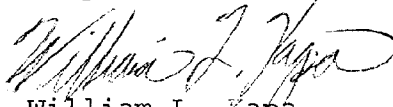
The approved grant programs were distributed as follows: Kent County 8 programs \$43,362, Sussex County 9 programs \$35,546, New Castle County 20 programs \$221,072. The foregoing statistics include both governmental and non-profit private recreation agencies, a breakdown of which is attached. Experience indicates that the demand for community recreation programs throughout Delaware is great and will continue.

The Recreation Advisory Council held 5 meetings and made one all day on site visitation tour to projects in progress during FY 1972.

The Council meeting schedule included a two-day application review meeting on September 22 and 23, 1971 at which time the Council considered 39 requests in the amount of \$664,764 and recommended at that time 31 programs in the amount of \$288,135. A copy of the Recreation Advisory Council meetings for the year is attached.

As explained in the foregoing report, the total Recreation Assistance Fund appropriations for FY 1972 fell far short of the necessary funds needed to help meet the recreation program needs as they exist in the State. Each of the previous years, since the inception of this grant program the Recreation Advisory Council has recommended that an amount between \$600,000 and \$750,000 be appropriated for this purpose. The actual application request experience during this fiscal year has again indicated the necessity for additional funds. In view of the fact that the recommendations of the Recreation Advisory Council for increased appropriations to the State Recreation Assistance Fund continues to be justified by the amount of grant requests which qualify and which are recommended for approval due to the needs of citizens throughout the three counties of the State, brought on by increased leisure time, population and facilities, the Council once again urges that considerable attention be given to expansion of fund appropriations.

Respectfully submitted,


William L. Kapa
Chairman

RECREATION ADVISORY COUNCIL MEETINGS FY 1972

(7/1/71 - 6/30/72)

<u>Date of Meeting</u>	<u>Called to Order</u>	<u>Adjournment</u>	<u>Length of Meeting</u>
July, 1971 - NONE			
August 4, 1971 - Visitations	9:30 - 5:30		8 hrs.
Sept. 22, 1971	9:14	4:32	7 hrs. 18 mins.
Sept. 23, 1971	9:38	2:50	5 hrs. 12 mins.
October, 1971 - NONE			
Nov. 17, 1971	10:24	12:06	1 hr. 42 mins.
December, 1971 - NONE			
Jan. 19, 1972	11:00	12:02	1 hr. 2 mins.
February, 1972 - NONE			
March, 1972 - NONE			
April, 1972 - NONE			
May, 1972 - NONE			
June 21, 1972	10:20	12:06	<u>1 hr. 46 mins.</u>
			25 hours

RECREATION ASSISTANCE FUND GRANTS
FISCAL 1972

City of Wilmington Dept. Parks & Rec. Youth Cultural Arts Program	\$ 5,473.69
City of Wilmington Dept. Parks & Rec. Comprehensive Center Program (3)	27,521.94
Geriatric Services of Del., Inc. Sr. Citizens Week's Vacation	10,838.00
Indian River Senior Center Sr. Citizens Bowling League	450.00
Newark Senior Center Year-round Sr. Citizens Rec.	2,325.00
New Castle County Parks & Rec. Comprehensive Community School Program	66,522.40
Town of Selbyville Seasonal Community Rec. Program	6,141.94
City of Dover Summer-winter Community Rec.	13,920.00
Town of Elsmere Evening Teen Rec. Program	10,418.21
Dover Mod. Maturity Center Year-round Sr. Citizens Rec.	2,445.62
Township of Laurel Year-round Community Recreation	9,834.38
Town of Harrington Year-round Community Recreation	7,000.00
YMCA, New Castle County Camping Scholarships	5,755.00
Wilmington Board of Education Community School Program, Teens/Adults (7)	26,400.00
Wilmington Society of Fine Arts Youth Cultural Art Program	2,906.75

City of Newark Parks & Rec. Summer Day Camp; Cultural Arts Director	\$10,829.78
Bethany Beach Area Rec. Comm. Year-round Recreation	3,926.47
Town of Georgetown Year-round Community Recreation	4,888.00
Assoc. Gr. Wilm. Neigh. Centers Kingswood Community Center Teen Program	12,381.01
Assoc. Gr. Wilm. Neigh. Centers Peoples Settlement Day Camp	10,685.53
S. Wilm. Community Council Week Family Vacation Program	1,918.54
Slaughter Neck Comm. Act. Organ. Community Rec. Center Program	1,321.59
Delmar Youth Center Year-round Rec. Center Program	5,598.60
City of Rehoboth Beach Youth-Adult Summer Eve. Sports Program	2,225.70
YMCA, Kent County Summer Primitive Camping Scholarships	3,360.00
Neighborhood, Inc. Year-round Neighborhood Rec.	3,150.00
Olivet Community Center Family Camping Scholarships	4,939.88
City of Milford Youth Recreation Program	5,264.13
Bridgeville Lions Club Youth Winter/Summer Rec. Pro.	1,159.85
Town of Smyrna Year-round Community Rec.	6,792.56

Town of Bowers	
Seasonal Community Rec. Program	\$ 1,301.88
Middletown-Odesa-Townsend Sr. Ctr.	
Sr. Citizens Recreation Program	404.00
City of Wilm. Parks & Rec.	
40-week Girls Charm Program	8,340.00
Kent County Parks & Rec. Comm.	
Summer Rec. in C.R. School Dist.	3,277.42
Wilmington Board of Education	
Summer Rec. Teens & Young Adults	8,370.00
Town of Elsmere	
Expanded Summer Playground Program	1,411.79
The Salvation Army	
Youth Summer Center Program	480.00
	Granted <u>\$299,979.66</u>
	Reverted <u>20.34</u>
	Appropriated <u>\$300,000.00</u>

DIVISION OF SOIL AND WATER CONSERVATION

INTRODUCTION

The Division of Soil and Water Conservation is primarily a service organization although it has been assigned certain action functions supplementing or complementing those of other conservation agencies. The programs of the Division are carried out for the most part through organizations of landowners including soil and water conservation districts, tax ditches and public group ditches.

SOIL AND WATER CONSERVATION DISTRICTS

Each county is a soil and water conservation district governed by an elected Board of Supervisors including one member of the county government. The Division assists the three district governing bodies by: (a) securing or maintaining technical assistance from the Federal Soil Conservation Service, U.S.D.A., as well as from its own staff; (b) administering loans for the purchase of heavy earth-moving equipment used in the conservation program, and (c) guiding the development of programs and work plans to assure participation in state and national programs.

The three districts enter into cooperative agreements with landowners for the installation of soil and water conservation practices on the private lands of the state. During the 1972 fiscal year, 192 landowners became cooperators with the districts. This raises the total to 3,717 cooperators who control 548,603 acres of land.

During fiscal year 1972, cooperators built 26 farm ponds, constructed or improved 351,000 feet of drainage ditches, installed 5,103 feet of agricultural tile and placed 109 water control structures. In addition to the engineering measures, cooperators maintained extensive cultural practices for soil protection and improvement such as conservation crop rotations, cover cropping and the application of lime and fertilizer to assure vigorous growth of protective ground cover.

Fiscal year 1972 reflected the new emphasis of the districts on forestry and wildlife. With the assistance of the Department of Natural Resources and Environmental Control staff, district cooperators increased the amount of upland wildlife habitat improved from 154 acres in 1971 to 1,273 acres in 1972. A significant increase was made in the area of forestry after a new memorandum of

understanding was executed between the Districts and State Forestry agencies - woodland practices were installed on 2,732 acres in 1972 compared with 953 acres in 1971. The 26 new ponds will be stocked with fish as were last year's 26 ponds through the working arrangement between the Bureau of Sports Fisheries, U.S.D.I., and the Fish and Wildlife Division.

District officials and Division personnel worked with their counterparts throughout the nation for modifications in the Watershed Protection and Flood Prevention Act (PL-566). The amendments of potential significance to Delaware were passed and included in the Rural Development Act of 1972.

WATERSHED PROGRAM

The Division has the responsibility within the Department for leadership in helping the districts carry out watershed projects under the Watershed Protection and Flood Prevention Act (PL-566). During fiscal 1972, eight tax ditches serving 391 properties entered into contracts totalling \$728,285 compared to seven tax ditches, 499 properties and \$404,294 in fiscal 1971. The projects which are federally cost-shared by the U.S.D.A., Soil Conservation Service, on a 75-25 basis, are co-sponsored by the tax ditches and the Department.

FIRST STATE RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

The Division represents the Department on the Steering Committee of the Resource Conservation and Development project authorized by the United States Department of Agriculture for planning during fiscal 1972. The project plan is nearing completion with more than 90 proposals made by local units of government for natural resource based projects under consideration by sub-committees. The plan is expected to be completed early in fiscal 1973.

TYPE IV RIVER BASIN STUDY

The preliminaries leading to a study of western Delaware's Chesapeake drainage area were completed by the Division, our Maryland counterparts and the federal Soil Conservation Service. The evaluation of run-off, erosion and sedimentation and their effects on the environment should be under way early in fiscal 1973.

Collection of basic data already compiled by other resource studies and pertinent to this study has been initiated by the federal technical team assisting with the study. Much of the normal activity of the Division is concentrated in the study area, therefore the study should accelerate the work of the Division with little, if any, additional input by the Division.

DREDGE OPERATIONS

The Division operates a portable dredge. A resolution of the State Senate limits the work of the dredge to five creeks tributary to Rehoboth and Indian River Bays. During fiscal 1972, the second of the five creeks, White Creek, was completed after many delays while environmental effects were considered and re-considered by Federal agencies. Plans were submitted for two additional creeks, Herring and Guinea, on March 9, 1972, as part of the permit procedure. State approval was given in May, federal approval has not yet been received.

Other uses contemplated for the dredge include bay beach nourishment at selected sites and sediment removal from the larger lakes and ponds.

TAX DITCH PROGRAM

1. Assistance to Boards of Tax Ditch Commissioners

A major duty of the Division through the Office of the State Drainage Engineer is the performance of various technical functions necessary to assist landowners in the organization of tax ditches. The duty requires property mapping, drainage system layout, identification of costs and benefits, allocation of costs, review and approval of engineering plans, presentation of alternatives to landowners and formal organization of the tax ditch after approval of the final report by the landowners, the Boards of Tax Ditch Commissioners and the Superior Court.

During fiscal 1972, the State Drainage Engineer assisted seven groups with the preparation of petitions for tax ditch formation. The planning process was initiated or continued on eleven petitions and four tax ditches were organized during the year. The four tax ditches organized serve 386 properties and 7,610 acres with 27.3 miles of ditches.

2. Assistance to Tax Ditch Managers

The State Drainage Engineer served as contracting officer for nine contracts for construction continued or

initiated during fiscal 1972. The total value of the contracts was \$807,271. The number of properties affected was 929.

During the year, fifteen tax ditches were assisted with 26 court order changes to meet the desire of landowners or to reflect changed conditions. An additional 57 tax ditches were assisted in processing 774 property transfers.

3. Tax Ditch Crossings

Improvement of tax ditch channels frequently requires replacement, lowering or protection of existing ditch crossings. To facilitate the program, the Division maintains equipment and materials and obtains personnel from the conservation districts for immediate replacement of crossings as the construction reaches them.

During fiscal year 1972, the Division utilized 3,298 feet of corrugated metal pipe for ditch crossings and erosion control structures associated with the crossings. As part of the roadside protection job to reduce erosion and prevent channel sedimentation, the work crews placed 40,200 bags of sand and cement.

PUBLIC DITCH PROGRAM

The Division prepared property maps for two small watershed projects scheduled for drainage improvement in the New Castle and Kent Districts. Preliminary surveys were made for feasibility determination on twenty small projects in New Castle County. Minor stream channel improvement was performed on fifteen projects utilizing district-owned equipment as a result of the cooperative working relationship established by the district, the County and the Division.

STATUTORY RESPONSIBILITY

The Division of Soil and Water Conservation carries out its programs under two primary authorities:

- (1) The Soil Conservation District Law - Chapter 39, Title 7
- (2) The Uniform Drainage Law - Chapter 41, Title 7

These two chapters, with subsequent opinions by the State Attorney General, are the basis for memorandums of understanding with the Secretary of the United States Department of Agriculture and the Federal Soil Conservation Service for extensive technical and financial assistance under three federal laws:

- (1) Soil Conservation Act of 1935 as amended (PL-74-46)
- (2) Watershed Protection and Flood Prevention Act as amended (PL-83-566)
- (3) Food and Agricultural Act of 1962 as amended (PL-87-703)

SOIL AND WATER CONSERVATION ADVISORY COUNCIL
1972 ANNUAL REPORT

The Council on Soil and Water Conservation was established on November 5, 1969, with the addition of Chapter 80 of Title 29, Delaware Code. The Chapter provides that the Council shall: (1) serve in an advisory capacity to the Director of Soil and Water Conservation, (2) consider matters relating to the conservation, protection, development and utilization of land and water resources in the State, and (3) such other matters as may be referred to it by the Governor, Secretary of the Department, or Director of Soil and Water Conservation. The Chapter also provides that the Council may study, research, plan and advise the Director, the Secretary and the Governor on matters it deems appropriate to enable the Division to function in the best possible manner. The Division's functions are described in the Soil Conservation District Law and the Uniform Drainage Law, Chapters 39 and 41 of Title 7, Delaware Code.

The seven members of the Council for fiscal year 1972 were:

Dr. William E. McDaniel, Chairman	no term
Gardner Kersey	6-30-72
Robert Dukes	6-30-72
F. William Haas, Jr.	6-30-73
Charles Blendt	6-30-73
Cashar W. Evans	6-30-74
Andrew J. Casey	6-30-74

The Council met at the call of the Chairman on seven occasions after four vacancies on the Council were filled. (9-22, 11-15, 12-15, 2-24, 3-22, 5-10 and 6-28)

The Council considers that it is not as deeply involved in the Soil and Water Conservation program as it was when it had Commission status. Nevertheless, a review of the year indicates substantial action by the Council in three of the four categories of the Council's assignment.

1. Advisory to the Director

Recommended a change in the easement requirements for the Public Ditch program to facilitate suburban drainage.

Recommended a continuance of the equipment loan program for the work of soil conservation districts based on the outstanding record of the districts. Since 1949 a total of \$1,109,034.31 has been borrowed and \$765,333.34 has been repaid.

Recommended modification of the repayment schedules of equipment loans.

Recommended repayment arrangements based on either hourly use or equal installments over a five-year period as requested by the District.

Recommended approval of four five-year loans totaling \$161,000 after considering the current repayment rate of approximately \$80,000 per year.

Recommended support of legislation requested by each of the three soil conservation districts for changes in the basic act, the Uniform Drainage Law, and for conservation education.

Opposed a proposal to finance the creek dredging by charges to riparian owners on a front foot or other basis.

Recommended changes in the election procedures for district supervisors.

Recommended re-vegetation of drainage rights-of-way with plants favorable to wildlife rather than grass sod.

2. Matters relating to conservation, protection, development and utilization of Land and Water Resources

Endorsed the USDA Resource Conservation and Development Project for the First State and through Councilman Haas served on the Steering Committee for that project during the planning process.

Indicated support of the Council on Fish and Wildlife in its efforts to slow down exploitation of the wetlands.

Continued to maintain contacts established during "Commission days" with the Mid-Atlantic Soil and Water Conservation Commission Association and the National Association of Conservation Districts. Through these organizations supported Federal conservation legislation of interest to the State of Delaware and the Conservation Districts. Councilmen Casey and Evans devoted considerable effort to the work with NACD.

Re-assessed the impact of "channelization" as condemned by national wildlife interests in terms of Delaware's drainage program. The position of the Council has been substantiated by the report of the Arthur D. Little Company, i.e., that few natural streams are included in drainage programs.

3. Consider other matters referred to it by the Governor, the Secretary or the Director

No specific assignments outside of the realm of soil and water conservation were referred to the Council directly. Intradepartmental legislation was reviewed by the Council but no position was taken on any legislation except opposition to Sunday hunting.

4. Study, research, plan and advise on matters it deems appropriate

The Council feels it is limited budgetarily to be effective in this field; however, certain actions were taken including:

Expressing to the Secretary through the Governor's Council a concern about burning bans in urban areas and on farms.

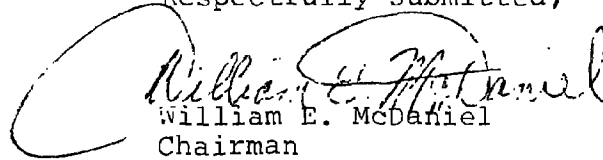
Expressing to the Joint Finance Committee the need for specific funds that were the key to the State's drainage program and Federal cost-sharing. The highway crossing program may again become a bottleneck.

Expressing to the State Drainage Engineer a need to assure that tax ditch managers make a special effort to advise non-farm interests who are property owners on the ditches of contemplated actions. Good public relations are increasingly important in the drainage field.

Expressing concern over red-tape in the national permit procedures relative to the dredge operations. The Council considers it inconceivable that permits can be delayed months after programs have been approved at all levels of State government including the General Assembly and the Governor.

Through the Agricultural Experimental Station and the Association of Districts pressed for the establishment of a Water Quality Research Program in Delaware. These efforts moved Delaware up the scale of priorities set in U.S. Senate Document No. 59.

Respectfully submitted,



William E. McDaniel
Chairman

LEGISLATION ENACTED BY
126TH GENERAL ASSEMBLY
SECOND SESSION -- 1972
AFFECTING THE DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

EXECUTIVE

SB #626 as amended by SA #1, HA #1 and #2

Provides for uniform and equitable treatment of persons displaced from their homes, businesses or farms as a result of the acquisition for federal or state-sponsored construction programs of real property.

Senate Substitute #1 for SB #732

Transfers beach erosion control from the Department of Highways and Transportation to the Department of Natural Resources and Environmental Control. Provides penalties for damaging beaches and authorizes the Secretary of Department of Natural Resources and Environmental Control to issue cease and desist orders to prevent such damage. Authorizes the issuance of bonds to finance a revolving fund to combat beach erosion.

HB #659

The Secretary of Department of Natural Resources and Environmental Control may use the state helicopter to view conditions that may affect the safety, health and welfare of the citizens of the state.

ENVIRONMENTAL CONTROL

SB #762

Authorizes the Delaware Water and Air Resources Commission and the Department of Natural Resources and Environmental Control to report to the public all information received on the nature and amounts of emissions from any source of any air contaminant.

FISH AND WILDLIFE

SB #715 as amended by SA #1

Boats licensed by State of Delaware must be equipped with life preservers and fire extinguishers as prescribed by U.S. Coast Guard regulations.

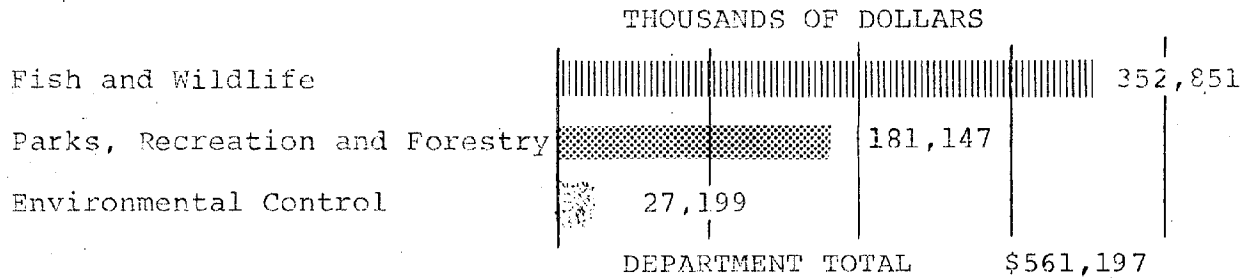
FINANCIAL REPORT
FOR
FISCAL YEAR ENDING JUNE 30, 1972



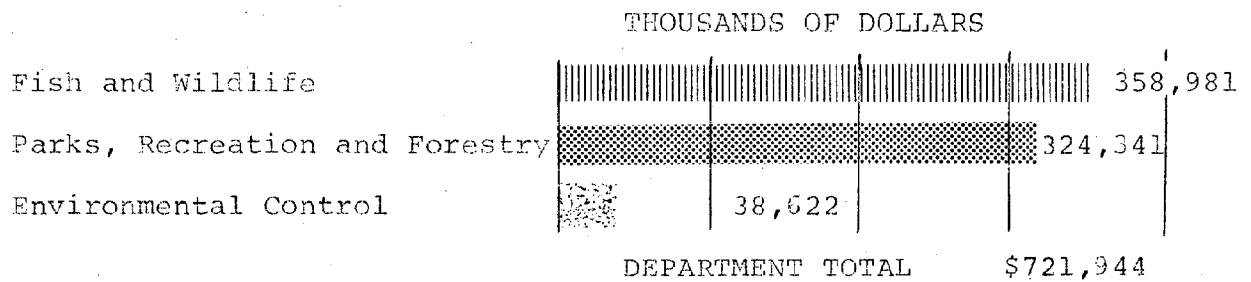
Department of Natural Resources
and
Environmental Control

REVENUE ANALOGY

1971 Revenues



1972 Revenues



29%

REVENUE INCREASE IN FISCAL 1971

19%

OF REVENUE DEPOSITED TO GENERAL FUND

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
STATEMENT OF ACCOUNTS FISCAL YEAR ENDED JUNE 30, 1972

	GENERAL FUND APPROPRIATIONS		DISBURSEMENTS	
	ADJUSTED	AVAILABLE	GENERAL FUNDS	SPECIAL FUNDS
OFFICE OF THE SECRETARY				
Salary of Secretary	\$ 29,450	\$ 29,450	\$ 28,222	\$ -0-
Salaries & Wages (2)	22,900	22,900	15,721	-0-
Travel	1,000	115	40	-0-
Contractual Services	1,500	2,845	1,724	-0-
Supplies & Materials	1,200	1,200	750	-0-
Capital Outlay	600	195	194	-0-
TOTAL	\$ 56,650	\$ 56,705	\$ 46,651	-0-
			(R) 8,928	
			(E) 1,126	
OFFICE OF ADMINISTRATION				
Salaries & Wages(17)	\$127,068	\$127,068	\$120,345	\$ -0-
Personal Services	50	50	37	-0-
Travel	200	10	9	-0-
Contractual Services	4,500	5,334	4,933	-0-
Supplies & Materials	2,500	2,823	2,718	-0-
Capital Outlay	500	696	696	-0-
TOTAL	\$134,818	\$135,981	\$128,738	-0-
			(R) 6,825	
			(E) 418	
OFFICE OF INFORMATION AND EDUCATION				
Salaries & Wages (3)	\$ 22,872	\$ 22,872	\$ 20,376	\$ -0-
Travel	200	10	4	-0-
Contractual Services	22,500	29,640	28,294	-0-
Supplies & Materials	2,500	3,195	2,681	-0-
Capital Outlay	-0-	390	390	-0-
TOTAL	\$ 48,072	\$ 56,107	\$ 51,745	-0-
			(R) 3,104	
			(E) 1,258	
OFFICE OF PLANNING AND CONSTRUCTION				
Salaries & Wages (8)	\$ 86,616	\$ 86,616	\$ 81,491	\$ 2,356
Personal Services	-0-	-0-	-0-	148,734
Travel	750	100	54	-0-
Contractual Services	1,500	2,339	1,545	115,938
Supplies & Materials	1,500	1,500	1,348	6,317
Capital Outlay	2,200	2,011	-0-	1,472,406
Public Lands Litigation	16,512	16,512	16,512	-0-
TOTAL	\$109,078	\$109,078	\$100,950	\$1,745,751
			(R) 5,261	
			(E) 2,867	
TOTAL EXECUTIVE OFFICES	\$348,618	\$357,871	\$328,084	\$1,745,751
(30)			(R) 24,118	
			(E) 5,669	

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
STATEMENT OF ACCOUNTS FISCAL YEAR ENDED JUNE 30, 1972

	GENERAL FUND APPROPRIATIONS		DISBURSEMENTS	
	ADJUSTED	AVAILABLE	GENERAL FUNDS	SPECIAL FUNDS
DIVISION OF FISH AND WILDLIFE				
OFFICE OF DIRECTOR				
Salary of Director	\$ 8,500	\$ 8,500	\$ 4,975	\$ 4,146
Salaries & Wages (2)	12,396	12,396	11,865	7,065
Travel	600	600	298	-0-
Contractual Services	1,200	1,200	617	-0-
Supplies & Materials	100	100	100	-0-
TOTAL	\$ 22,796	\$ 22,796	\$ 17,855	\$ 11,211
			(R) 4,542	
			(E) 399	
WILDLIFE SECTION				
Salaries & Wages (14)	\$104,824	\$104,824	\$101,346	\$133,956
Salaries Overtime	8,500	8,500	7,851	-0-
Personal Services	-0-	-0-	-0-	2,501
Travel	500	500	163	891
Contractual Services	5,830	7,530	7,070	146,451
Delaware SPCA	30,000	30,000	30,000	-0-
Kent County Dog Control	15,000	15,000	15,000	-0-
Boat Repairs	-0-	684	684	-0-
Supplies & Materials	8,100	11,013	9,399	38,260
Capital Outlay	2,800	6,952	5,191	55,756
Fishing Piers	-0-	15,000	15,000	-0-
Boat Repairs	-0-	20,870	16,509	-0-
Wetland Development	-0-	6,896	6,896	-0-
Fish Passage	-0-	45,000	45,000	-0-
NCC Fishing Stocking				
Grant Refund	-0-	-0-	-0-	95
Revenue Refund	-0-	-0-	-0-	131
Petty Cash Advance	-0-	-0-	-0-	25
TOTAL	\$175,554	\$272,769	\$260,109	\$378,066
			(R) 6,596	
			(E) 6,064	
FISHERIES SECTION				
Salaries-Seasonal	\$ 1,500	\$ 1,500	\$ 137	\$ -0-
Salaries & Wages (11)	71,752	71,752	68,633	19,062
Salaries Overtime	4,000	4,000	1,855	-0-
Travel	500	500	141	-0-
Contractual Services	6,150	6,150	5,642	6,778
Boat Repairs	2,450	2,450	2,245	-0-
Supplies & Materials	9,900	11,201	9,127	-0-
Capital Outlay	5,000	5,000	1,009	19,544
TOTAL	\$101,252	\$102,553	\$ 88,789	\$ 45,384
			(R) 9,621	
			(E) 4,143	

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
STATEMENT OF ACCOUNTS FISCAL YEAR ENDED JUNE 30, 1972

	GENERAL FUND APPROPRIATIONS		DISBURSEMENTS	
	ADJUSTED	AVAILABLE	GENERAL FUNDS	SPECIAL FUNDS
DIVISION OF FISH & WILDLIFE				
TECHNICAL SERVICES SECTION				
Salaries & Wages (1)	\$ 6,424	\$ 6,424	\$ 5,810	\$ 70,468
Travel	200	200	77	104
Contractual Services	8,500	8,500	2,198	514
U of D Crabs-Clam Research	15,000	15,000	15,000	-0-
U of D Shellfish Research	10,000	10,000	2,777	-0-
Supplies & Materials	1,900	1,900	1,368	345
Capital Outlay	6,000	6,000	936	273
Oyster Program SB265				
Salaries	-0-	7,500	2,116	-0-
Contractual Services for				
Removal	-0-	15,000	15,000	-0-
Oyster Bed Program	-0-	2,500	469	-0-
Oyster Bed Survey	-0-	9,000	8,623	-0-
Moving Seed Oysters				
(Supp. App. SB588)	3,000	3,000	1,998	-0-
TOTAL	\$ 51,024	\$ 85,024	\$ 56,372	\$ 71,704
			(R) 12,252	
			(E) 16,400	
MOSQUITO CONTROL SECTION				
Salaries & Wages (20)	\$128,698	\$128,698	\$118,487	\$ -0-
Part Time	15,000	15,000	10,393	-0-
Overtime	1,000	1,000	921	-0-
Travel	400	400	35	-0-
Contractual Services	16,984	20,343	9,732	-0-
U of D Research Contract	24,000	24,000	24,000	-0-
Spraying	60,000	103,747	77,779	-0-
Supplies & Materials	21,003	27,600	18,526	-0-
Insecticides	35,000	74,598	48,682	-0-
Capital Outlay	-0-	14,110	14,110	-0-
TOTAL	\$302,085	\$409,496	\$322,665	-0-
			(R) 22,185	
			(E) 64,646	
TOTAL FISH AND WILDLIFE	\$652,711	\$892,638	\$745,790	\$506,365
(48)			(R) 55,196	
			(E) 91,652	

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
STATEMENT OF ACCOUNTS FISCAL YEAR ENDED JUNE 30, 1972

	GENERAL FUND APPROPRIATIONS		DISBURSEMENTS	
	ADJUSTED	AVAILABLE	GENERAL FUNDS	SPECIAL FUNDS
DIVISION OF PARKS, RECREATION AND FORESTRY				
OFFICE OF DIRECTOR				
Salary of Director	\$ 20,000	\$ 20,000	\$ 19,167	\$ -0-
Salaries & Wages (1)	8,748	8,748	8,411	-0-
Travel	425	425	73	-0-
Contractual Services	1,050	1,050	697	-0-
Supplies & Materials	800	800	621	-0-
TOTAL	\$ 31,023	\$ 31,023	\$ 28,969	\$ -0-
			(R) 1,693	
			(E) 361	
PARKS SECTION				
Salaries & Wages (46)	\$340,504	\$340,504	\$281,997	\$ -0-
Seasonal	-0-	-0-	-0-	193,166
Personal Services	-0-	-0-	-0-	229
Travel	2,471	2,471	156	20
Contractual Services	50,837	61,578	48,207	29,127
Supplies & Materials	46,297	56,058	42,054	16,221
Capital Outlay	20,007	35,160	30,460	14,152
Nature Center	18,000	18,000	16,417	-0-
Killens Pond Dump	-0-	24,962	13,217	-0-
Principal	-0-	-0-	-0-	3,000
Interest	-0-	-0-	-0-	1,169
Petty Cash Advance	-0-	-0-	-0-	425
Revenue Refund	-0-	-0-	-0-	259
TOTAL	\$478,116	\$538,733	\$432,508	\$257,768
			(R) 68,990	
			(E) 28,023	
			(C) 9,212	
RECREATION SECTION				
Salaries & Wages (4)	\$ 40,230	\$ 40,230	\$ 40,230	\$ -0-
Travel	29	29	29	-0-
Contractual Services	2,163	2,163	2,163	-0-
Supplies & Materials	763	763	763	-0-
Capital Outlay	193	193	193	-0-
Recreation Assistance Grants	300,000	300,000	299,980	-0-
Local Park Development and Acquisition Grants HB326	-0-	-0-	-0-	164,950
TOTAL	\$343,378	\$343,378	\$343,358	\$164,950
			(R) 20	

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
STATEMENT OF ACCOUNTS FISCAL YEAR ENDED JUNE 30, 1972

	GENERAL FUND APPROPRIATIONS		DISBURSEMENTS	
	ADJUSTED	AVAILABLE	GENERAL FUNDS	SPECIAL FUNDS
DIVISION OF PARKS, RECREATION AND FORESTRY				
FORESTRY SECTION				
Salaries & Wages (11)	\$ 78,960	\$ 78,960	\$ 69,429	\$ -0-
Seasonal	-0-	-0-	-0-	12,630
Personal Services	600	600	40	5,635
Fire Protection & Extinction-Pers. Ser.	300	300	91	-0-
Travel	400	400	211	112
Fire Protection & Extinction-Travel	50	50	13	-0-
Contractual Services	3,400	4,033	3,531	4,285
Fire Protection & Extinction-Cont.Ser.	1,700	1,949	1,545	-0-
Supplies & Materials	3,155	3,962	3,115	865
Fire Protection & Extinction-Supplies & Materials	820	924	773	-0-
Capital Outlay	4,500	4,989	4,357	62,107
Forest Improvement	-0-	17,840	17,840	-0-
Forest Land Improvement	-0-	15,000	15,000	-0-
Forest Parking Areas	-0-	10,000	10,000	-0-
FICA	-0-	-0-	-0-	665
TOTAL	\$ 93,885	\$ 139,007	\$125,945	\$ 86,299
			(R) 11,058	
			(E) 2,004	
TOTAL-PARKS, RECREATION AND FORESTRY (62)				
	\$946,402	\$1,052,141	\$930,780	\$509,017
			(R) 81,761	
			(E) 30,388	
			(C) 9,212	

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
STATEMENT OF ACCOUNTS FISCAL YEAR ENDED JUNE 30, 1972

	GENERAL FUND APPROPRIATIONS		DISBURSEMENTS	
	ADJUSTED	AVAILABLE	GENERAL FUNDS	SPECIAL FUNDS
DIVISION OF SOIL AND WATER CONSERVATION				
Salary of Director	\$ 14,700	\$ 14,700	\$ 14,088	\$ -0-
Salaries & Wages (8)	65,296	65,296	53,028	45,693
Travel	750	750	203	-0-
Contractual Services	6,000	6,295	4,426	82,855
Highway Crossings	80,000	86,955	70,877	-0-
Supplies & Materials	5,400	5,400	1,657	2,662
Highway Crossings	70,000	88,099	48,171	-0-
Tax Ditches-Sussex	22,500	22,500	14,288	-0-
Tax Ditches-Kent	30,000	30,000	30,000	-0-
Tax Ditches-New Castle	30,000	30,000	29,640	-0-
Creek Dredging	147,000	147,000	24,670	-0-
Capital Outlay	-0-	671	671	40,421
TOTAL	\$471,646	\$497,666	\$291,719	\$171,631
			(R)101,922	
			(E)104,025	

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
STATEMENT OF ACCOUNTS FISCAL YEAR ENDED JUNE 30, 1972

	GENERAL FUND APPROPRIATIONS		DISBURSEMENTS	
	ADJUSTED	AVAILABLE	GENERAL FUNDS	SPECIAL FUNDS
DIVISION OF ENVIRONMENTAL CONTROL				
OFFICE OF DIRECTOR				
Salary of Director	\$ 11,550	\$ 11,550	\$ 11,550	\$ 10,588
Salaries & Wages (2)	14,208	14,208	11,710	-0-
Travel	1,800	1,800	1,521	-0-
Contractual Services	1,600	1,600	970	-0-
Supplies & Materials	775	775	505	-0-
Capital Outlay	300	300	10	-0-
TOTAL	\$ 30,233	\$ 30,233	\$ 26,266	\$ 10,588
			(R) 2,812	
			(E) 1,155	
AIR RESOURCES SECTION				
Salaries & Wages (9)	\$ 89,714	\$ 89,714	\$ 59,108	\$ 48,649
Personal Services	450	711	711	31,978
Travel	750	750	18	264
Contractual Services	15,000	18,105	13,376	23,425
Supplies & Materials	1,500	1,538	1,297	7,367
Capital Outlay	-0-	432	432	23,859
FICA	-0-	-0-	-0-	2,867
TOTAL	\$107,414	\$111,250	\$ 74,942	\$ 138,409
			(R) 31,576	
			(E) 4,732	
WATER RESOURCES SECTION				
Salaries & Wages (12)	\$118,872	\$118,872	\$115,021	\$ 35,266
Personal Services	450	450	450	584
Travel	1,050	1,050	345	41
Contractual Services	24,975	28,044	18,637	13,375
Supplies & Materials	7,435	8,889	4,130	8,849
Capital Outlay	5,000	5,016	147	28,369
FICA	-0-	-0-	-0-	3,434
Sewer Construction Grants	-0-	-0-	-0-	4,527,278
TOTAL	\$157,782	\$162,321	\$138,730	\$4,617,196
			(R) 11,114	
			(E) 12,477	
TECHNCIAL SERVICES SECTION				
Salaries & Wages (14)	\$128,190	\$128,190	\$118,043	\$ 34,280
Travel	250	250	5	304
Contractual Services	2,000	4,836	3,898	4,402
Supplies & Materials	7,872	8,473	7,542	4,471
Capital Outlay	-0-	9,831	9,758	6,169
FICA	-0-	-0-	-0-	352
TOTAL	\$138,312	\$151,580	\$139,246	\$ 49,978
			(R) 10,990	
			(E) 1,344	

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
STATEMENT OF ACCOUNTS FISCAL YEAR ENDED JUNE 30, 1972

	GENERAL FUND APPROPRIATIONS		DISBURSEMENTS	
	ADJUSTED	AVAILABLE	GENERAL FUNDS	SPECIAL FUNDS
DIVISION OF ENVIRONMENTAL CONTROL				
DELAWARE RIVER BASIN COMMISSION				
Salaries & Wages	-0-	-0-	-0-	\$ 33,603
Personal Services	-0-	-0-	-0-	9,983
Travel	-0-	-0-	-0-	770
Contractual Services	-0-	-0-	-0-	11,715
Supplies & Materials	-0-	-0-	-0-	18,636
Capital Outlay	-0-	-0-	-0-	12,850
TOTAL	-0-	-0-	-0-	\$ 87,557
SOLID WASTE SECTION				
Salaries & Wages (2)	\$ 18,950	\$ 18,950	\$ 1,214	\$ 4,477
Personal Services	-0-	-0-	-0-	457,380
Travel	350	350	124	-0-
Supplies & Materials	2,900	2,900	52	-0-
Capital Outlay	2,800	2,800	-0-	-0-
Solid Waste Grant SB729	-0-	75,000	-0-	-0-
TOTAL	\$ 25,000	\$ 100,000	\$ 1,390	\$ 461,857
			(R) 23,610	
			(C) 75,000	
TOTAL ENVIRONMENTAL CONTROL				
	\$ 458,741	\$ 555,384	\$ 380,574	\$ 5,365,585
			(R) 80,102	
			(E) 19,708	
			(C) 75,000	
GRAND TOTAL DEPARTMENT				
(187)	\$2,878,118	\$3,355,700	\$2,676,947	\$8,298,349
			(R) 343,099	(R) 16,566
			(E) 251,442	
			(C) 84,212	

Symbols:

(R) Reverted

(E) Encumbered

(C) Continuing

General Fund salary positions noted in parenthesis

Prior Year General Funds included in available appropriations

See Exhibit "A" for detailed analysis of Special Funds

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
SPECIAL FUND ANALYSIS

	DISBURSED	ENCUMBERED	CONTINUING
OFFICE OF PLANNING & CONSTRUCTION			
Land Acquisition			
Land Acquisition 1971 CIP	\$175,982	\$ 175	\$ 73,714
Federal Account Land Acquisition	690,548	8,018	108,914
Burton's Island Relocation	534,680	282,820	23,454
Divestiture Fund Transfers:			
Fish & Wildlife	1,927	10,857	16,228
Parks	920	-0-	8,826
Forest Land Acquisition	10,988	-0-	-0-
CAPITAL IMPROVEMENT PROGRAMS			
FISH AND WILDLIFE			
Water Construction & Access Facilities	20	-0-	-0-
Water Control & Boat Launch	47,003	20,903	-0-
Fish Passage Facilities	30,000	-0-	-0-
Water Control Structures & Boat Launch	1,844	66,794	111,362
Reimburse Land Acquisition	-0-	-0-	111,000
Pond Development	-0-	-0-	50,000
Oyster Shell Planting	-0-	49,959	41
PARKS			
Lums Pond Camping Area	-0-	120	-0-
Lums Pond Shower Building	1,910	-0-	-0-
Trap Pond Superintendent Residence	237	-0-	-0-
Trap Pond Camping Area	500	-0-	-0-
Cape Henlopen Parking Lot & Entrance Road	586	-0-	-0-
Cape Henlopen Office & Sanitary Trailer	3,936	13,250	-0-
Lums Pond Entrance Road & Parking Lot	38,541	18,887	-0-
Killens Pond Picnic Area	4,741	-0-	-0-
Fort Delaware Parking Lot	7,609	-0-	-0-
Trap Pond Bath House	41,487	8,461	-0-
Holts Landing Boat Launch	700	-0-	-0-
Delaware Seashore Parking Lot & Sanitary Trailers	1,754	-0-	-0-
Cape Henlopen Fencing	7,967	-0-	-0-
Brandywine Creek Picnic & Water Fac.	12,959	504	6
Lums Pond Design	1,612	1,075	2,359
Master Planning (4Parks)	46,000	45,000	-0-
Delaware Seashore Shower Building	-0-	-0-	282
Contact Stations-All Parks	17,754	9,320	301,906
Brandywine Creek Parking Lot & Entrance Road	12,828	3,288	138,384
Delaware Seashore Water Sewage Study & Parking Lot	7,375	-0-	122,255
Cape Henlopen Bath House & Boardwalk	-0-	10,000	-0-
Lums Pond Phase I - Stage A	-0-	-0-	1,131,382

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
SPECIAL FUND ANALYSIS

	DISBURSED	ENCUMBERED	CONTINUING
PARKS (cont'd)			
Trap Pond Sewage Treatment Plant	\$ 5,770	\$ 10,230	\$ 289,000
Park Development	-0-	-0-	500,000
FORESTRY			
Redden Heater Washroom	10,000	-0-	-0-
Equipment Facility-Blackbird	16,270	3,730	-0-
Parking Facility Recreation Area	9,984	-0-	-0-
SPECIAL FUNDS			
Public Land Litigations	-0-	164	-0-
Fire Damage Redden Forest	1,319	-0-	-0-
DIVISION OF FISH AND WILDLIFE			
Donation-Black Duck Program	473	-0-	4,807
Trout Account	1,464	3,010	5,074
Dog Account	62,006	-0-	16,996
Repair Boat Damage	7,511	855	95
Fish & Wildlife USG Account	433,675	37,466	188,609
Small Boat Safety	-0-	-0-	33,256
Sea Grant Project	1,236	688	2,076
DIVISION OF PARKS, RECREATION AND FORESTRY			
Park User Fee	52,322	7,783	42,214
Trap Pond Account	22,652	3,656	8,685
Fort Delaware Account	3,458	-0-	2,561
Administration Account	179,336	21,569	74,319
Local Parkland Acq. & Dev.			
Grants	164,950	53,909	191,422
State Forest Federal Account	86,299	24,993	49,094
DIVISION OF SOIL & WATER CONSERVATION			
Conservation Requirements	52,874	13,793	5,600
New Castle County Construction	38	-0-	62
Water Shed Program	104,350	80,036	465,567
Water Shed-Capital Outlay	14,369	500	1,000
DIVISION OF ENVIRONMENTAL CONTROL			
Air Pollution	166,711	64,449	151,338
Water Resources	20,996	3,955	3,982
Water Pollution	101,186	59,171	10,893
Delaware River Basin Commission	87,557	29,589	11,655
Kent Sewerage Treatment Grant	197,500	-0-	-0-
Sewer Construction Grants	4,000,000	-0-	-0-
Sewer Construction Grants	329,778	-0-	3,670,222
Solid Waste Reclamation	461,857	244,941	48,276
TOTAL	\$8,298,349	\$1,213,918	\$7,976,916
		(R) 16,566	

Internal Funds:

HB 388-Divestiture Fund Balance
Fish & Wildlife \$103,598
Parks 473,041
Forestry-DP&L Account \$11,375
Trap Pond Bond Account \$8,635

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
GENERAL FUND REVENUE
FISCAL YEAR ENDED JUNE 30, 1972

Office of Planning & Construction		
Attachment Fees	\$.50	
Total		\$.50
Division of Fish and Wildlife		
Permits	\$ 22.00	
Breeders	90.00	
Fur Dealers	5.00	
Game & Fish Fines	5,247.50	
Marine Police Fines	4,108.00	
Land Rental	1,797.00	
Land Rental - Trapping	758.00	
House Rental	490.00	
Boat Licenses - New	13,132.00	
Boat Licenses - Renewals	45,533.00	
Boat Licenses - Transfers	4,732.00	
Boat Licenses - Duplicates	827.00	
Boat Licenses - Dealers	277.00	
Tongers Licenses	3,105.00	
Crab Pots	705.00	
Clams and Crab Dredge	105.00	
Oyster Tax	7,758.90	
Crab & Clam Tax	416.49	
Oyster Plantation	6,245.50	
Oyster Dredge	1,455.00	
Prior Year Refunds	15.43	
Total		\$ 96,824.82
Division of Parks, Recreation and Forestry		
Collected Law Violations	\$ 440.00	
Barcroft Lease	1,260.00	
Right-Of-Way Lease-Forestry	23.00	
Prior Year Refunds-Parks	11.67	
Prior Year Refunds-Recreation	21,573.98	
Prior Year Refunds-Forestry	17.80	
Total		\$ 23,326.45
Division of Soil and Water Conservation		
Repayment of 1963 Loans	\$ 760.50	
Total		\$ 760.50
Division of Environmental Control		
Permits-Subaqueous Lands	\$ 23,787.97	
Rental-Subaqueous Lands	14,835.00	
Prior Year Refunds	175.53	
Total		\$ 38,798.50
Total General Funds		\$159,710.77

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
SPECIAL FUND REVENUE
FISCAL YEAR ENDING JUNE 30, 1972

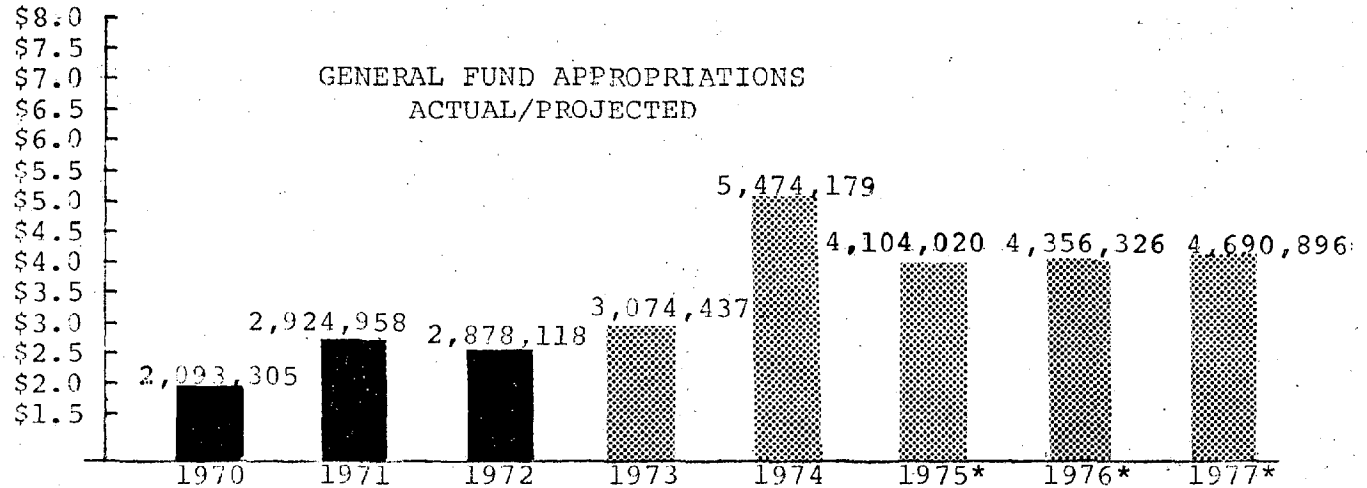
Office of Planning & Construction		
Land Acquisition	\$420,250.00	
Relocation Assistance Grant	227,353.75	
Total		\$647,603.75
Division of Fish and Wildlife		
Resident Hunting	\$117,382.47	
Non-Resident Hunting	33,942.25	
Duplicate Resident Hunting	13.00	
Duplicate Non-Resident Hunting	1.00	
Shooting Preserve Operator	100.00	
Shooting Preserve Hunt	18.00	
Resident Fishing	42,333.05	
Non-Resident Fishing	7,300.10	
Duplicate Resident Fishing	5.00	
Duplicate Non-Resident Fishing	.25	
Seven Day Fishing	1,634.40	
U.S. Grants P-R Wildlife	225,367.78	
U.S. Grants D-J Fisheries	122,023.64	
U.S. Grants AFSC-3-2	40,268.32	
U.S. Grants Small Boat Safety Program	37,256.22	
Resient Trout Stamps	5,583.45	
Non-Resident Trout Stamps	290.80	
Insurance Receipt-Boat Damage	7,386.18	
Insurance Receipt-Agent Bonding	2,000.00	
Donation-Black Duck Project	5,000.00	
Dog Licenses	47,734.10	
Kennels	1,941.00	
Training Area	30.00	
Duplicate Dog Licenses	9.00	
Dog Violation Fines	3,852.75	
Prior Year Refunds	1,815.29	
Total		\$703,288.05
Division of Parks, Recreation and Forestry		
Beach Accessories	\$ 3,607.75	
Concessions	12,318.31	
Property/Building Rental	4,220.00	
Utilities	5,245.71	
Youth Camping	16,256.50	
Family Camping	168,105.50	
Boat Rental	2,548.50	
Vehicle Permits	2,135.00	
Fort Delaware-Miscellaneous Sales	3,842.60	
Park User Fees	102,320.00	
Property Damage Claim	628.80	
Federal Grant-CM2	65,217.85	
Federal Grant-PL566	5,557.07	
Miscellaneous Sales	2,018.29	
Total		\$394,021.88

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
SPECIAL FUND REVENUE
FISCAL YEAR ENDING JUNE 30, 1972

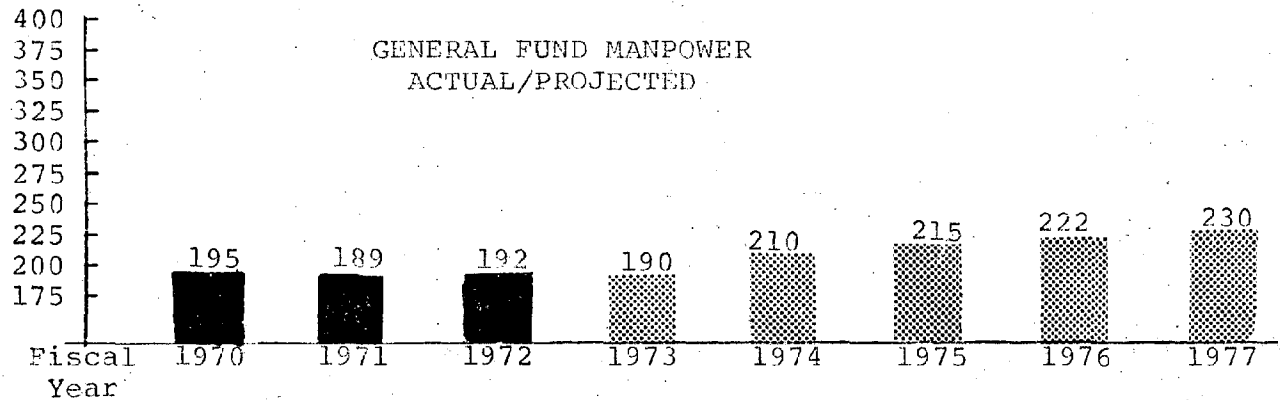
Division of Soil and Water Conservation		
Repayment of Bond Loans	\$ 67,933.87	
Prior Year Refunds	1.16	
Total		\$ 67,935.03
Division of Environmental Control		
Federal Water Pollution Grants	\$ 129,000.00	
Federal Water Resources Grants	8,950.00	
Federal Air Pollution Grants	234,314.00	
Delaware River Basin Commission	49,499.00	
Prior Year Refunds	288.30	
Total		\$ 422,051.30
Total Special Funds		<u>\$2,234,900.01</u>

STATE OF DELAWARE
Department of Natural Resources and
Environmental Control

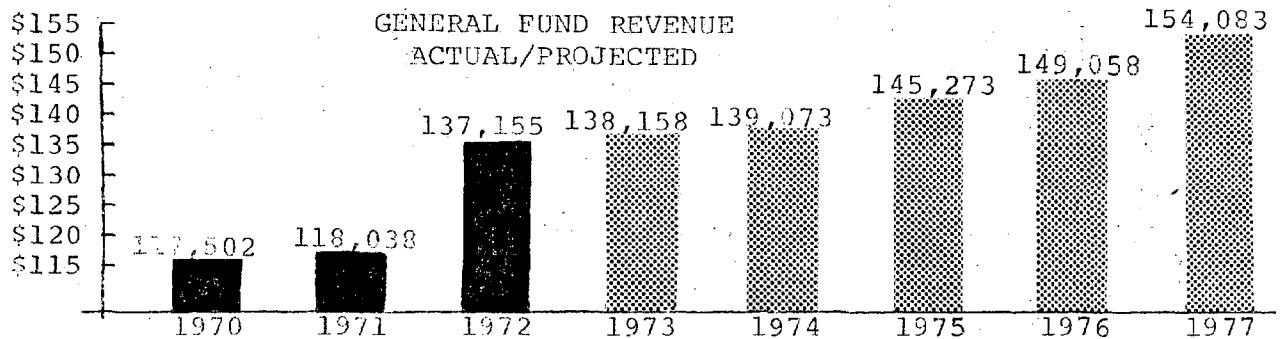
Millions



Manpower



Thousands



* Does not include bond indebtedness

**COASTAL ZONE
INFORMATION CENTER**

